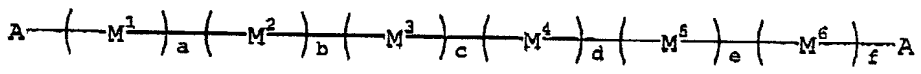
We Claim:

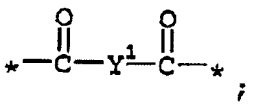
1. A poly-o-hydroxyamide having a formula I



Formula I

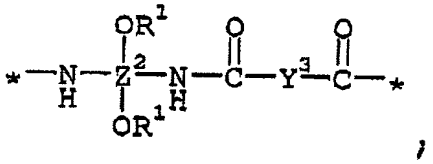
wherein

$M^1$ is



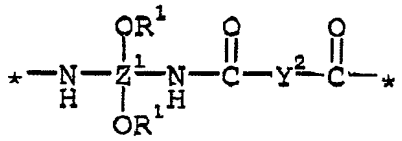
;

$M^2$ is



;

$M^3$, $M^4$, and $M^5$, in each case independently, are monomers selected from the group consisting of



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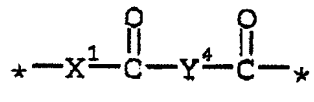
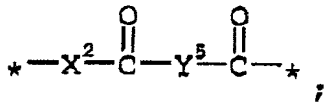
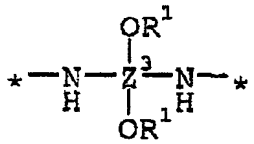


, and

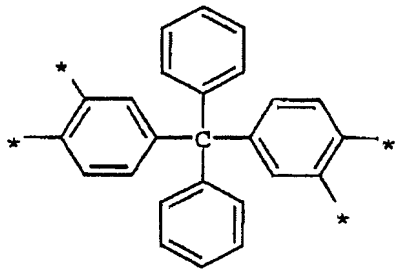


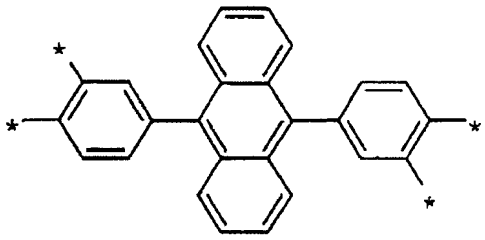
;

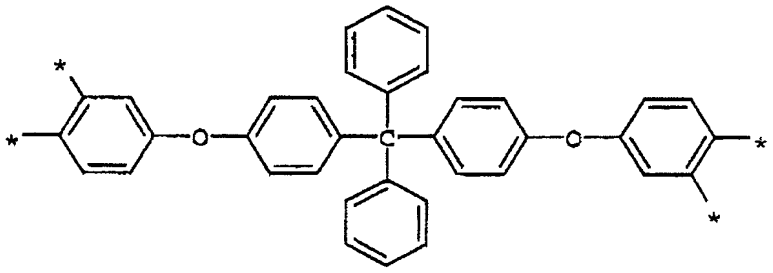
$M^6$ is

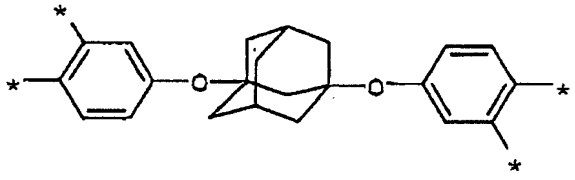


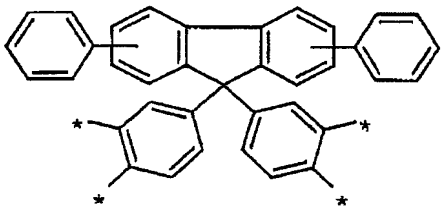
$Z^2$ is a substituent selected from the group consisting of

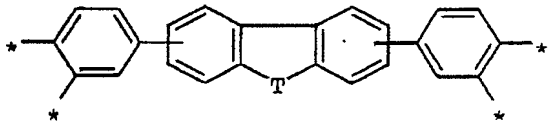


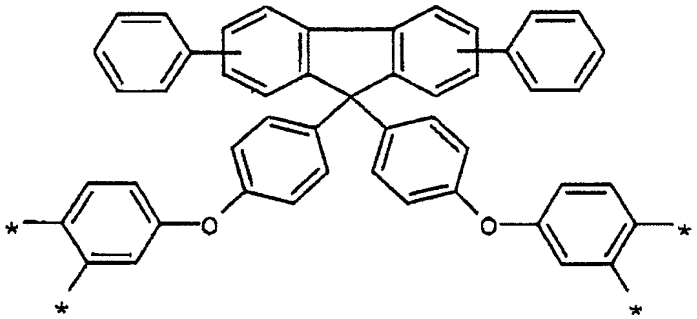


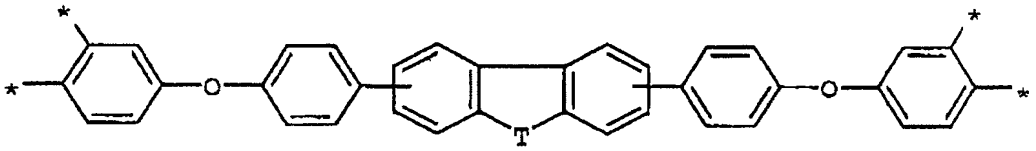






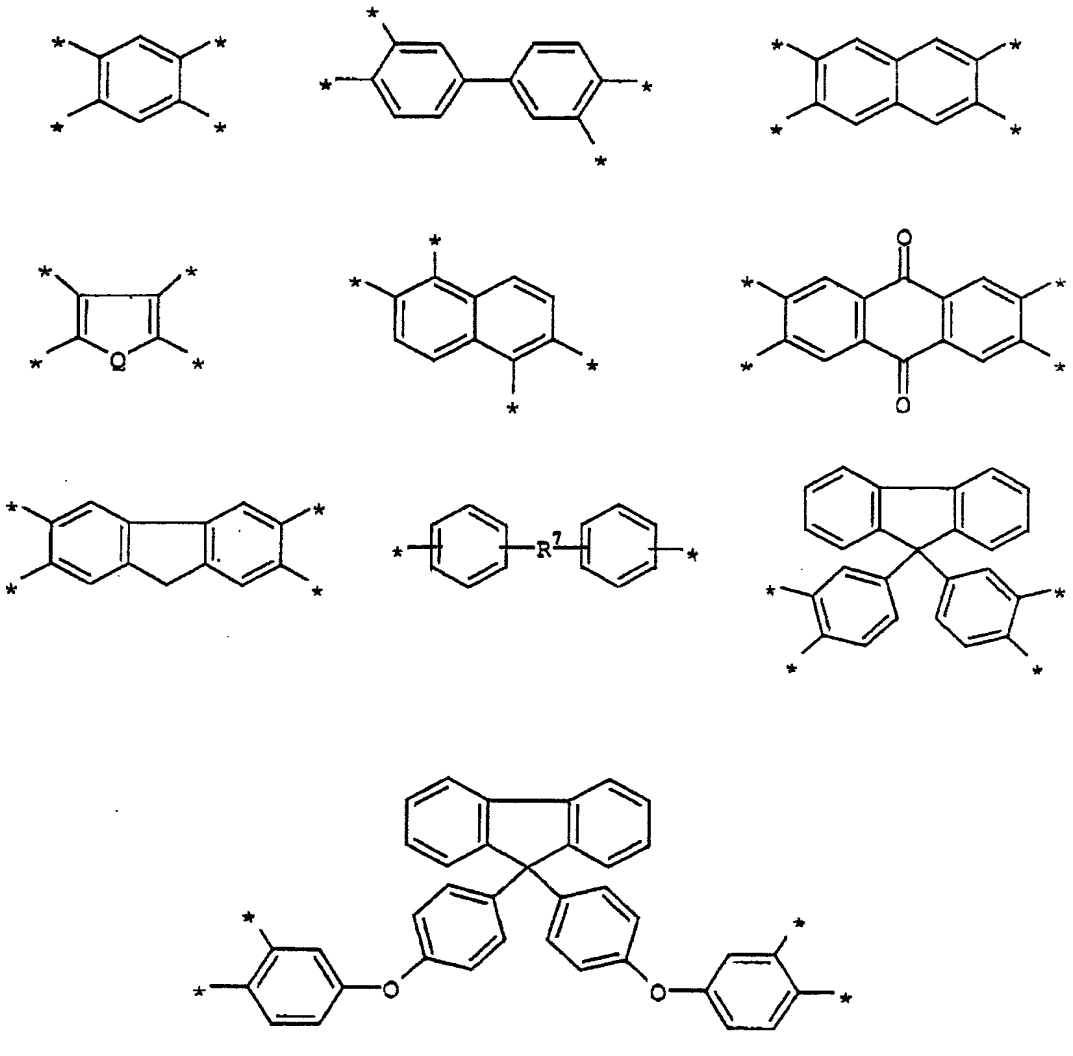






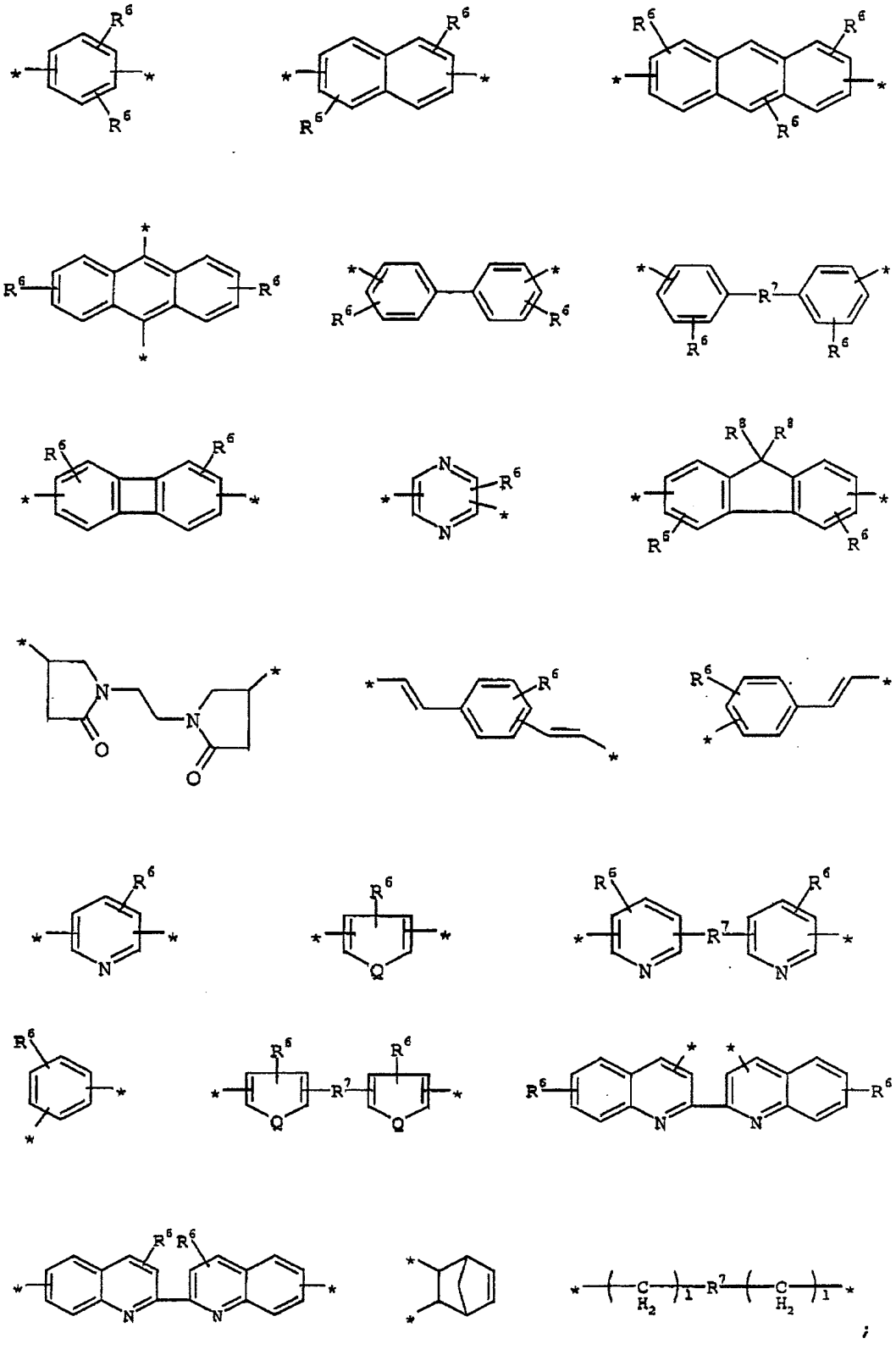
;

$Z^1$ and $Z^3$, in each case independently, are substituents selected from the group stated for $Z^2$, the group further consisting of

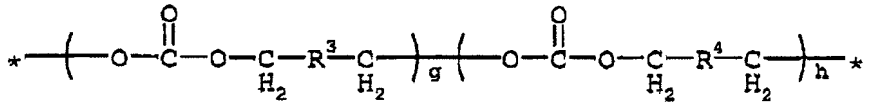


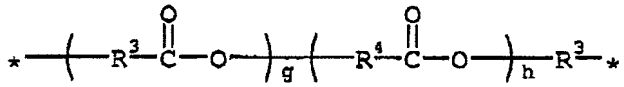
;

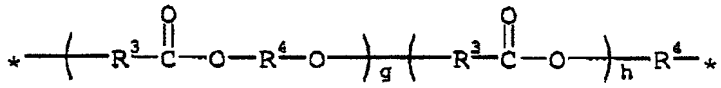
$Y^1$, $Y^2$, $Y^3$, $Y^4$, and $Y^5$ are substituents selected from the group consisting of

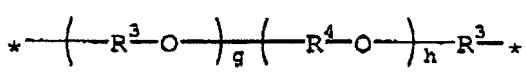


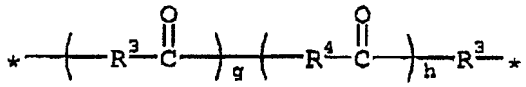
$X^1$ and $X^2$, in each case independently, are selected from the group consisting of:

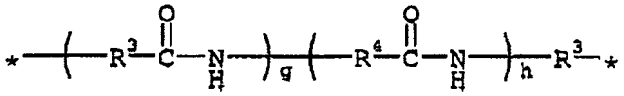






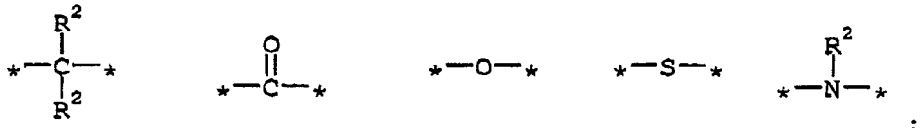






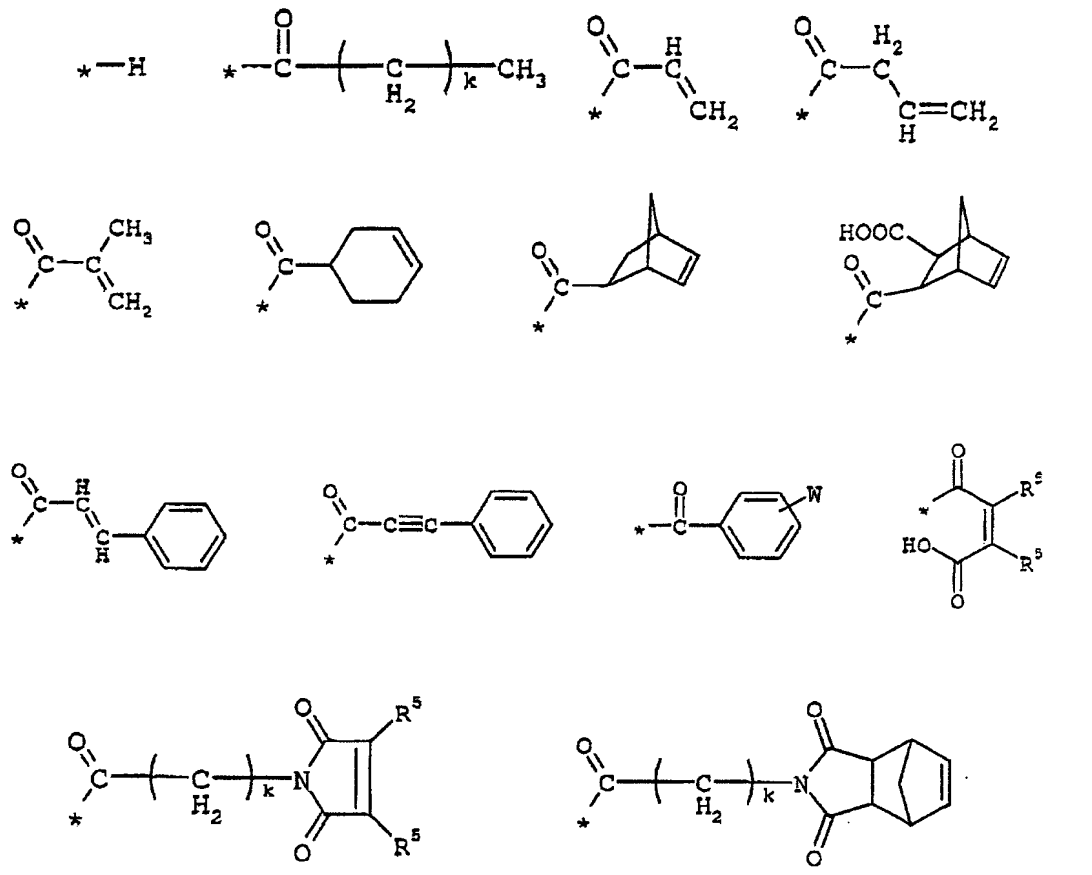
;

T is a substituent selected from the group consisting of



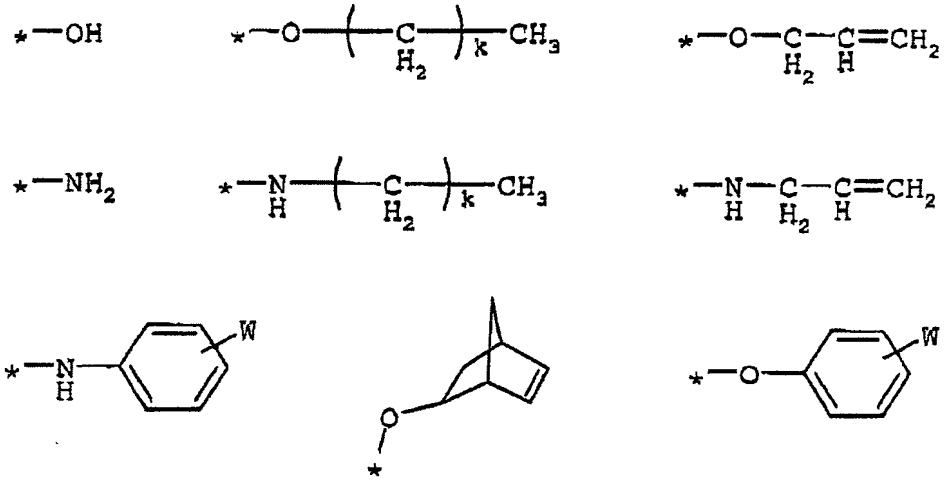
;

A, if at least one of a = 0 and f = 1, is a substituent selected from the group consisting of



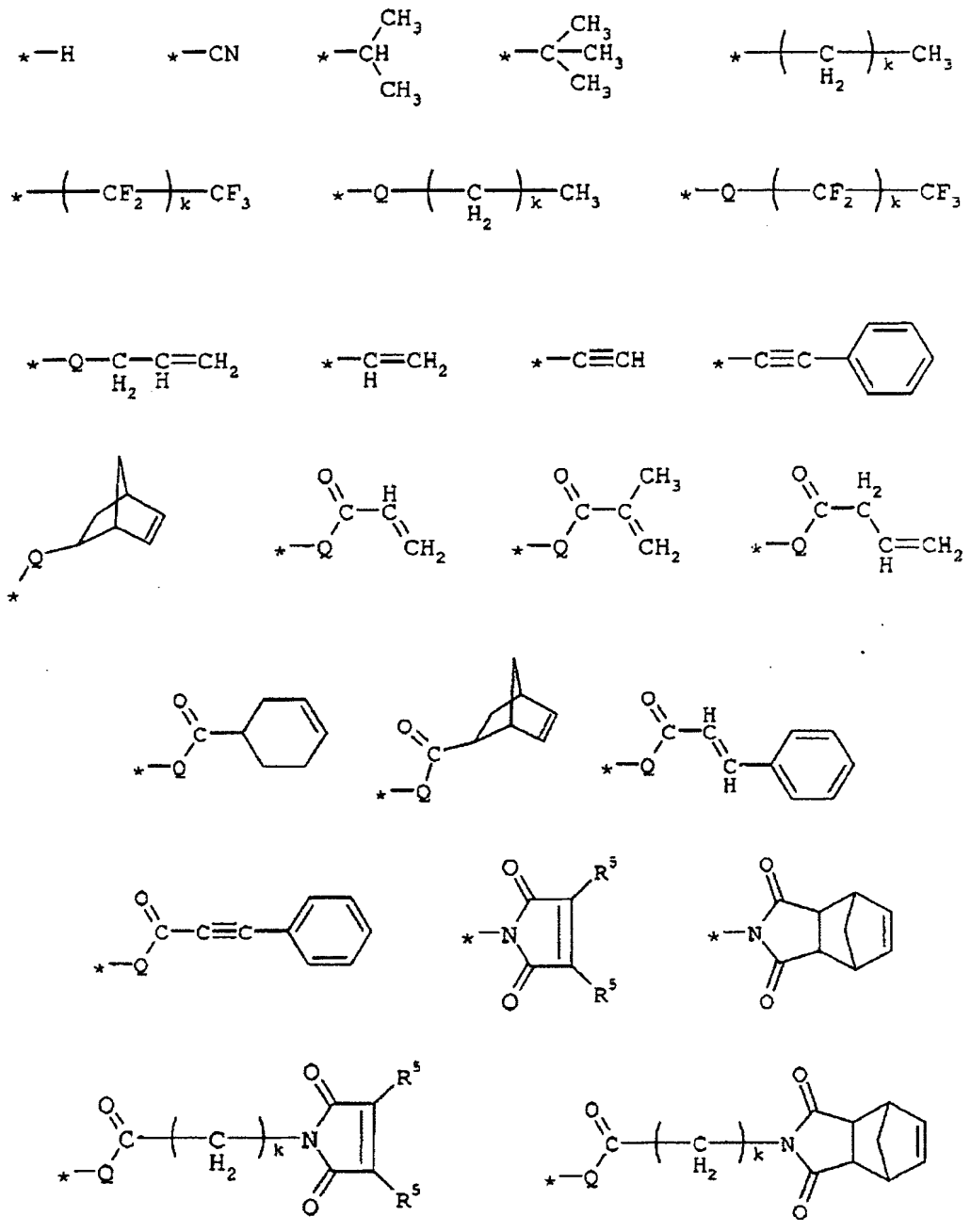
;

A, if at least one of a = 1 and f = 0, is a substituent selected from the group consisting of



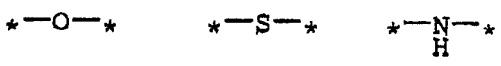
;

W is a substituent selected from the group consisting of



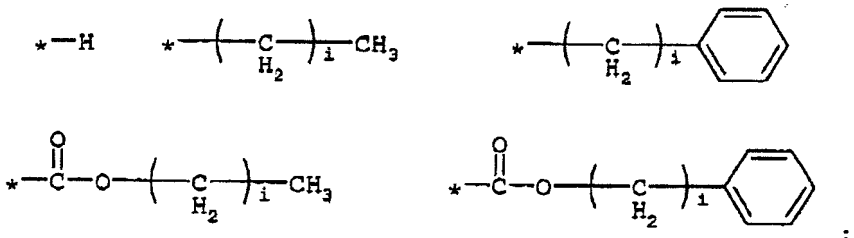
;

Q is a substituent selected from the group consisting of



;

$R^1$ is a substituent selected from the group consisting of

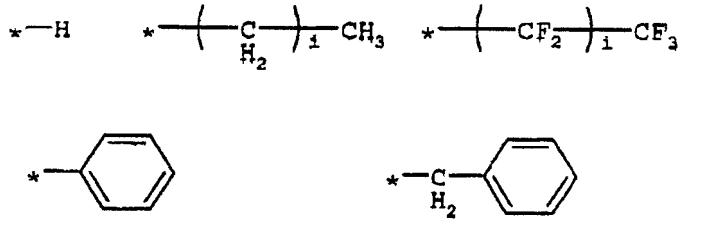


;

$R^2$ is a substituent selected from the group consisting of -H, an alkyl group having from 1 to 10 carbon atoms, an aryl group, and a heteroaryl group;

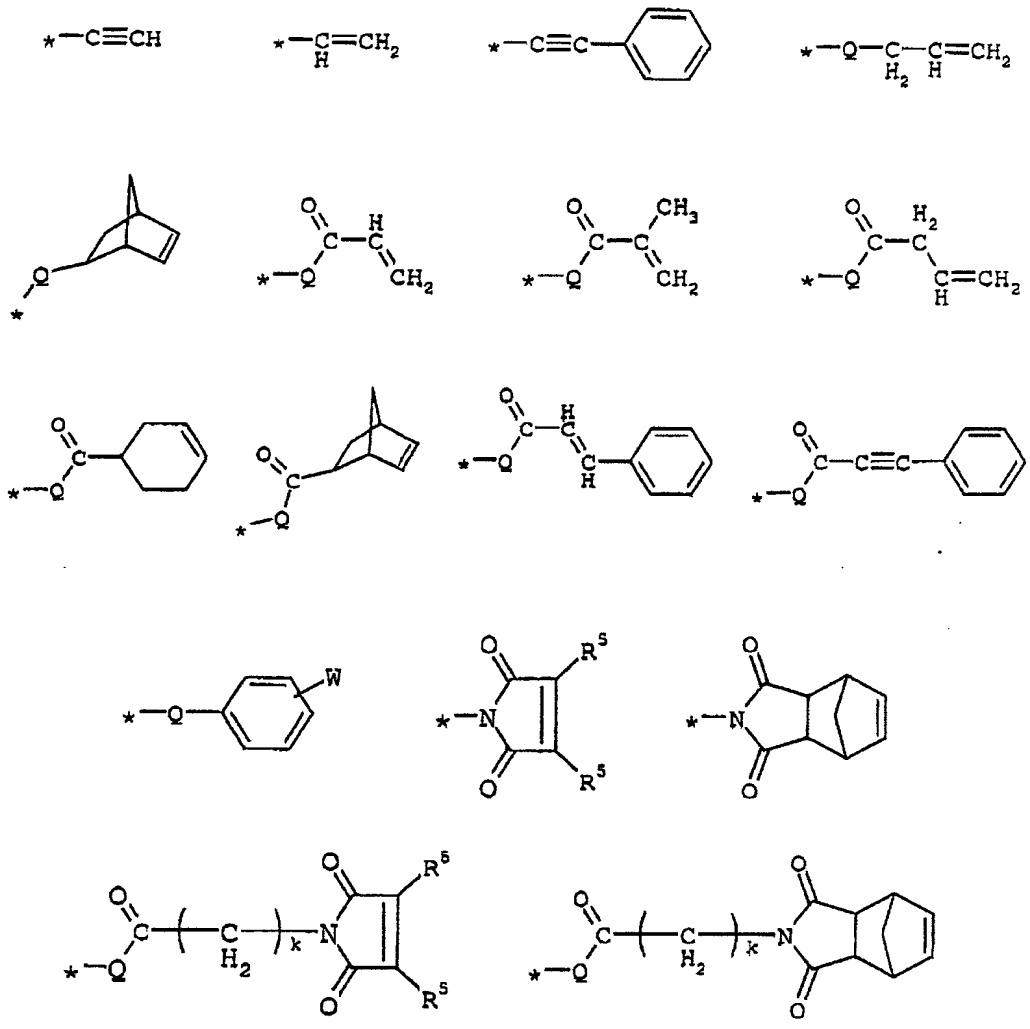
$R^3$ and $R^4$, in each case independently, are substituents selected from the group consisting of a substituted alkylene, an unsubstituted alkylene, arylene, and cycloalkylene group;

$R^5$ is a substituent selected from the group consisting of



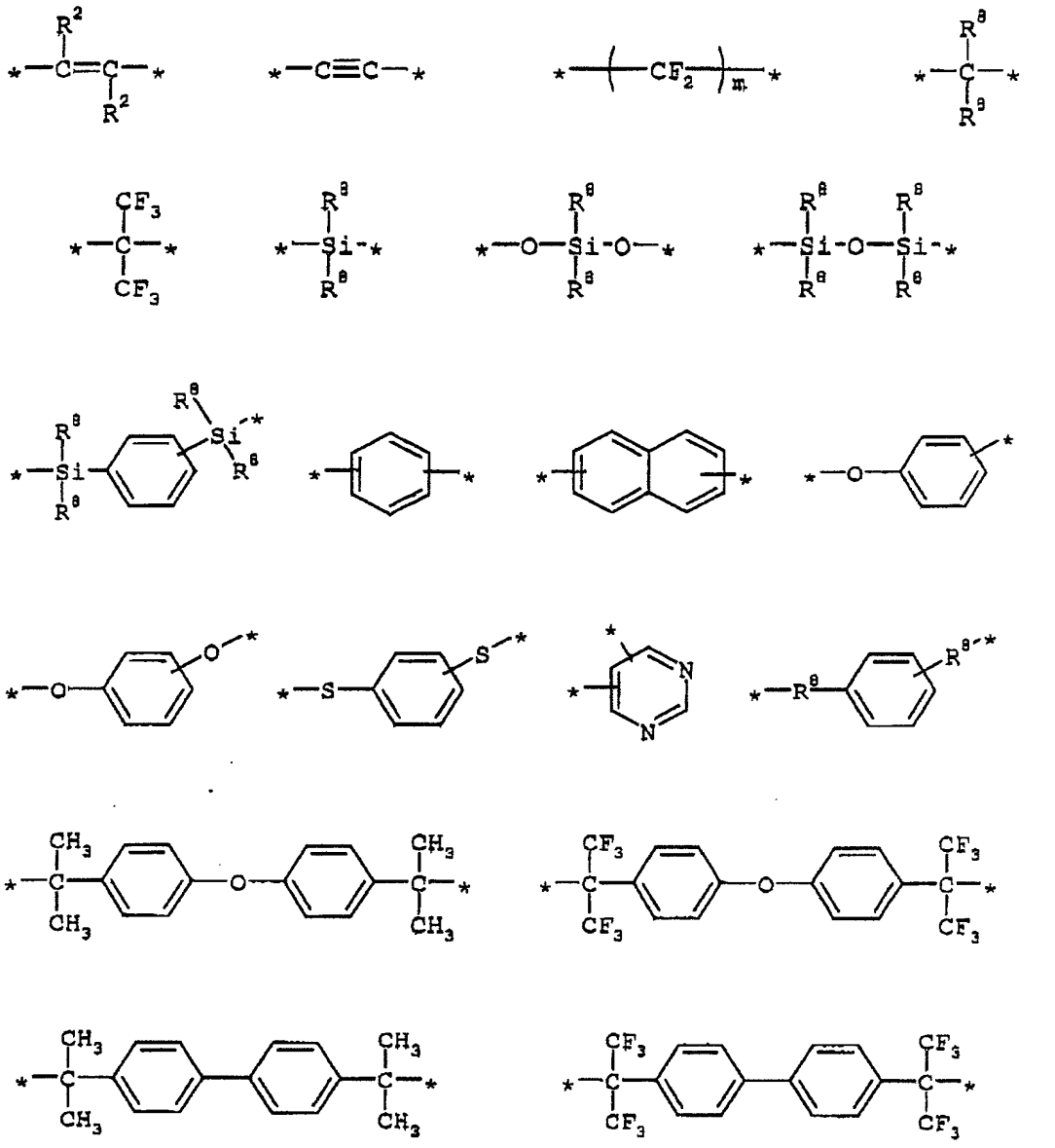
;

$R^6$ is a substituent selected from the group consisting of -H, -$CF_3$, -OH, -SH, -COOH, -$N(R^2)_2$, an alkyl group, aryl group, a heteroaryl group, and



;

$R^7$ is a substituent selected from the group consisting of -O-, -CO-, -$NR^4$-, -S-, -$SO_2$-, -$CH_2$-, -$S_2$-, and



;

$R^8$ is a substituent selected from the group consisting of an alkyl group having from 1 to 10 carbon atoms, an aryl group, and a heteroaryl group;

a is an integer from 0 to 1;

b is an integer from 1 to 200;

c is an integer from 0 to 200;

d is an integer from 0 to 50;

e is an integer from 0 to 50;

f is an integer from 0 to 1;

g is an integer from 0 to 100;

h is an integer from 0 to 100;

i is an integer from 0 to 10;

k is an integer from 0 to 10;

l is an integer from 1 to 10;

m is an integer from 1 to 10;

g and h are not simultaneously 0; and

l is an integer from 0 to 10 when $R^7$ is $-CH_2-$.

2. The poly-o-hydroxyamide according to claim 1, wherein b is an integer from 5 to 100.

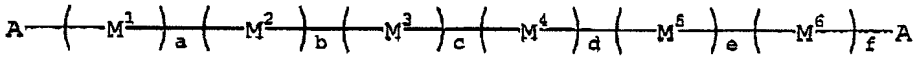
3. The poly-o-hydroxyamide according to claim 1, wherein c is an integer from 0 to 50.

4. The poly-o-hydroxyamide according to claim 1, wherein d is an integer from 0 to 20.

5. The poly-o-hydroxyamide according to claim 1, wherein e is an integer from 0 to 20.

6. The poly-o-hydroxyamide according to claim 1, wherein at least one of c, d, and e is not equal to zero.

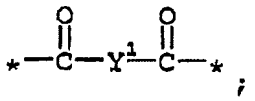
7. A polybenzoxazole obtained from a poly-o-hydroxyamide having a formula I



Formula I

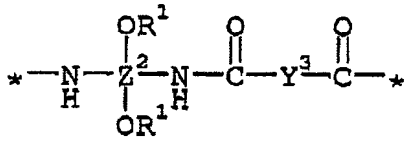
wherein

$M^1$ is



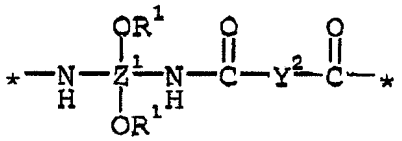
;

$M^2$ is

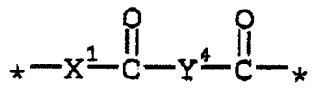


;

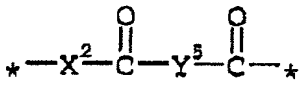
$M^3$, $M^4$, and $M^5$, in each case independently, are monomers selected from the group consisting of



,

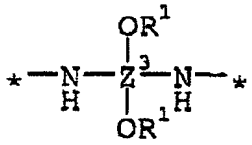


, and



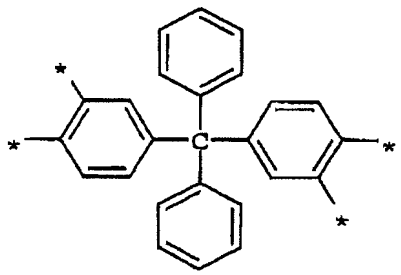
;

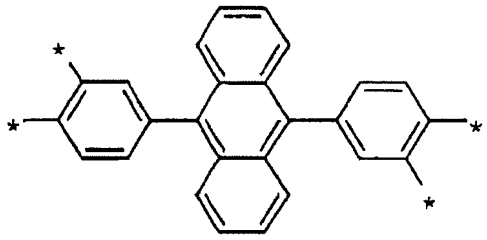
$M^6$ is

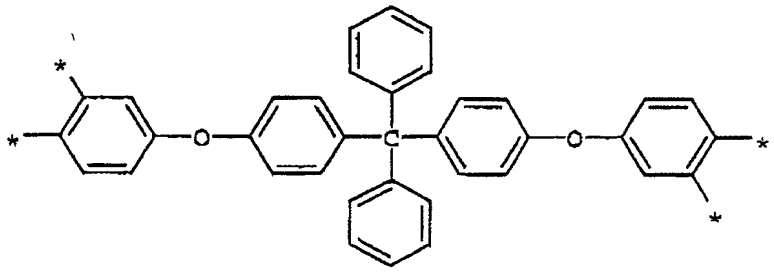


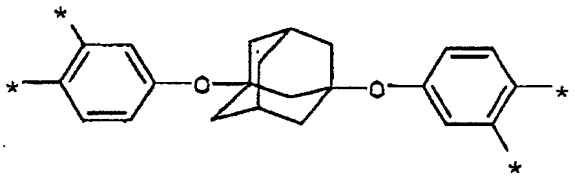
;

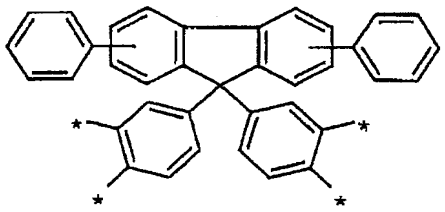
$Z^2$ is a substituent selected from the group consisting of

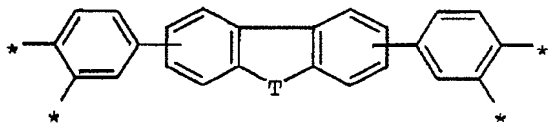


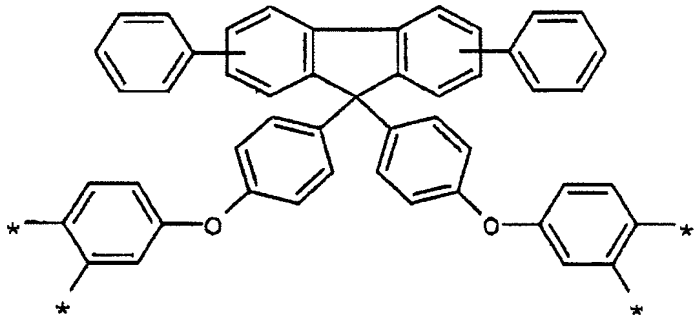


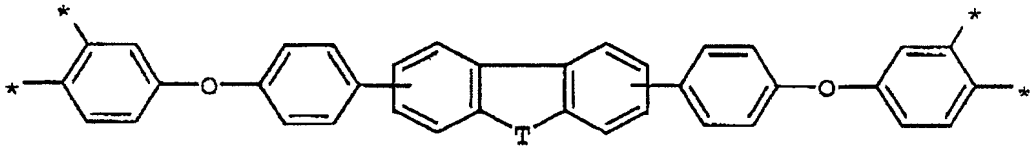




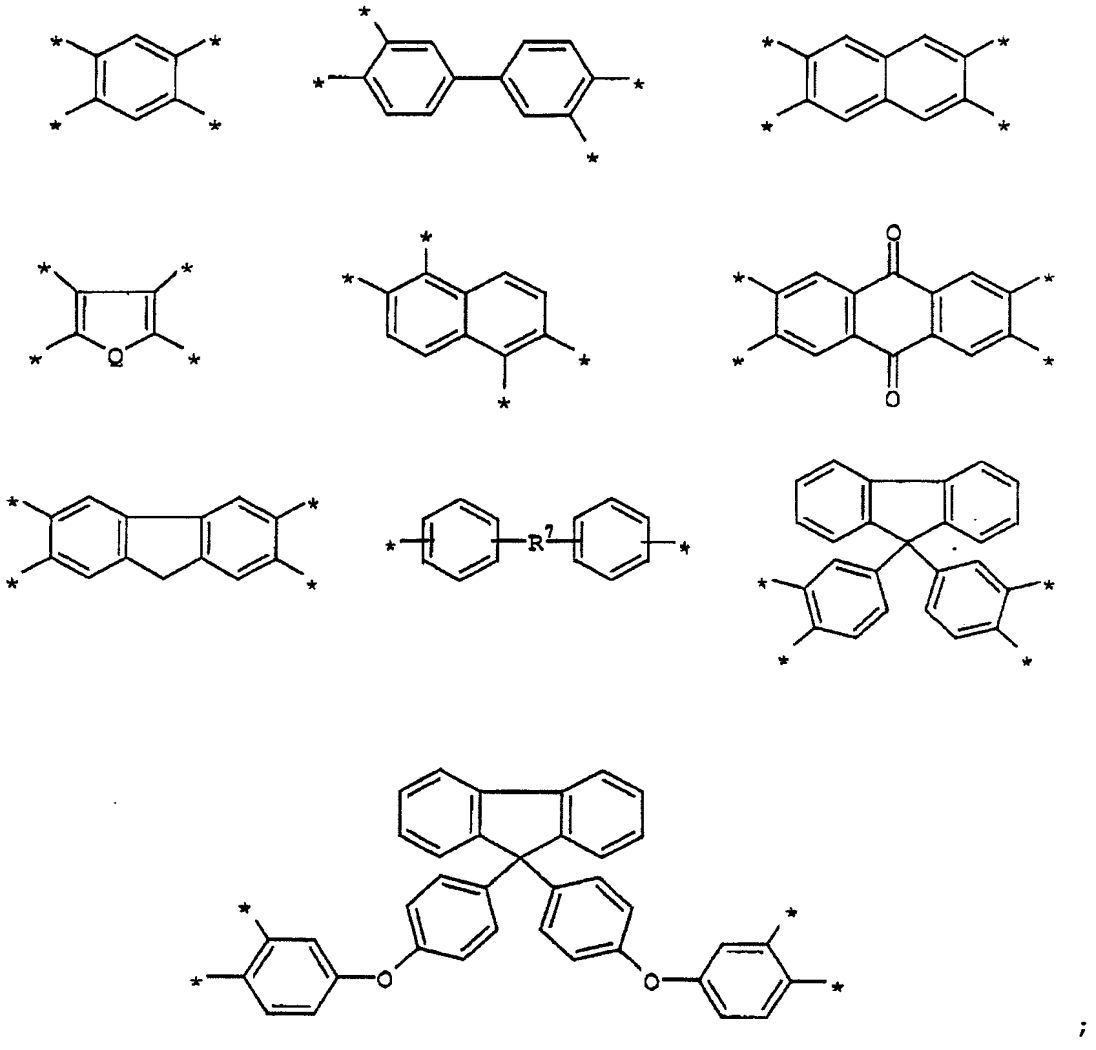






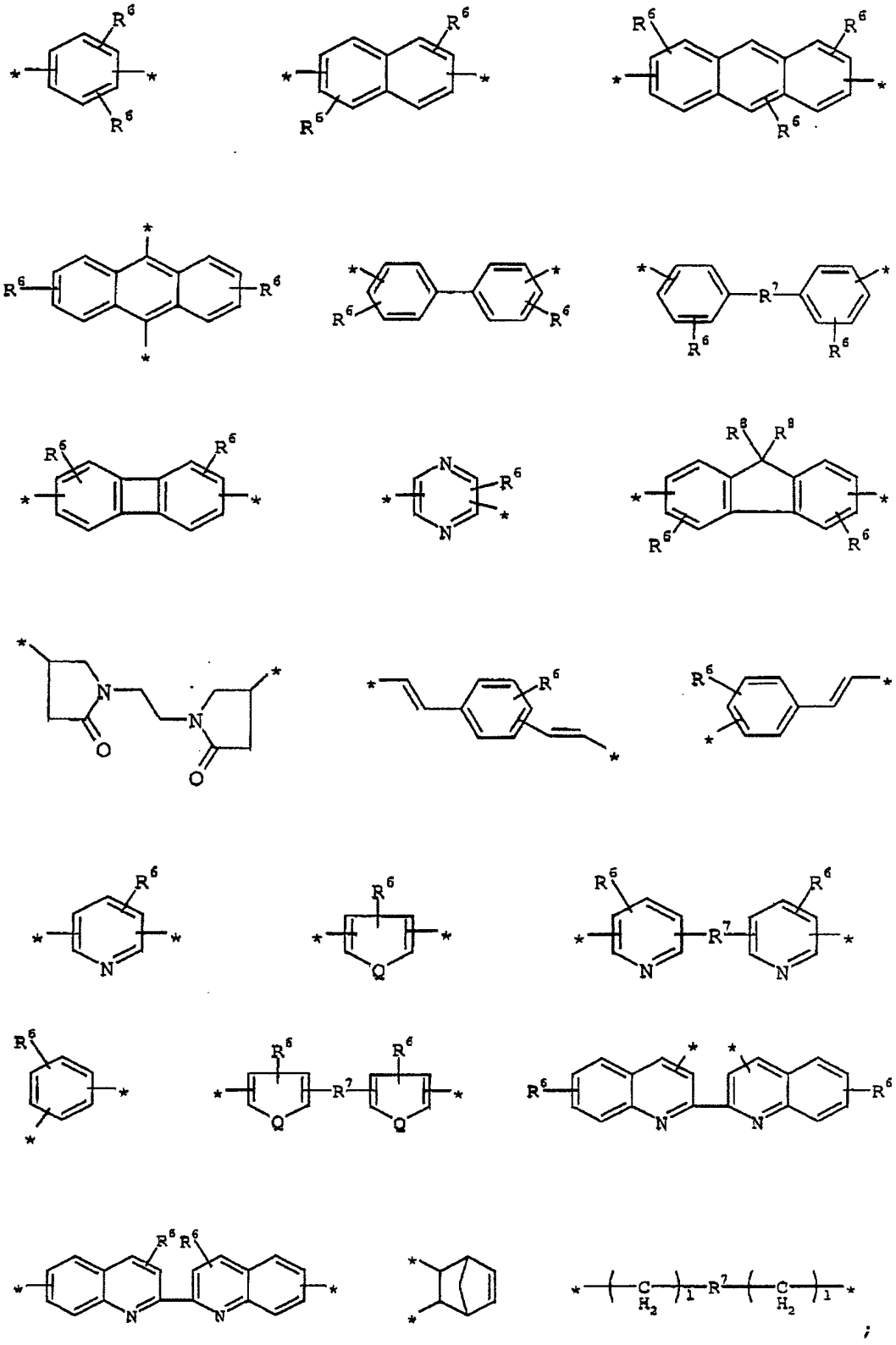


$Z^1$ and $Z^3$, in each case independently, are substituents selected from the group stated for $Z^2$, the group further consisting of

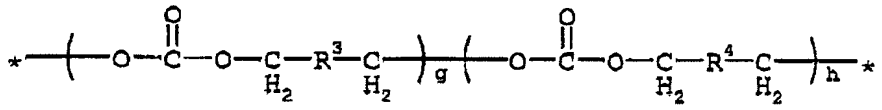


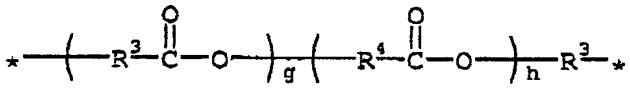
;

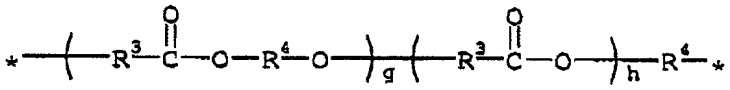
$Y^1$, $Y^2$, $Y^3$, $Y^4$, and $Y^5$ are substituents selected from the group consisting of

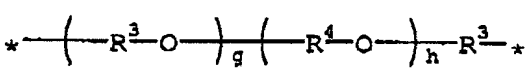


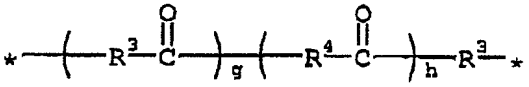
$X^1$ and $X^2$, in each case independently, are substituents selected from the group consisting of:

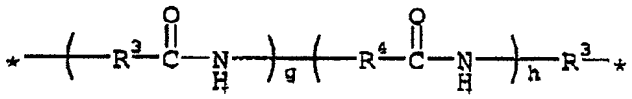






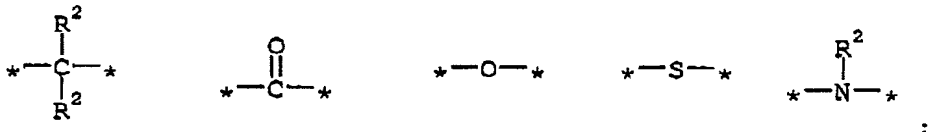






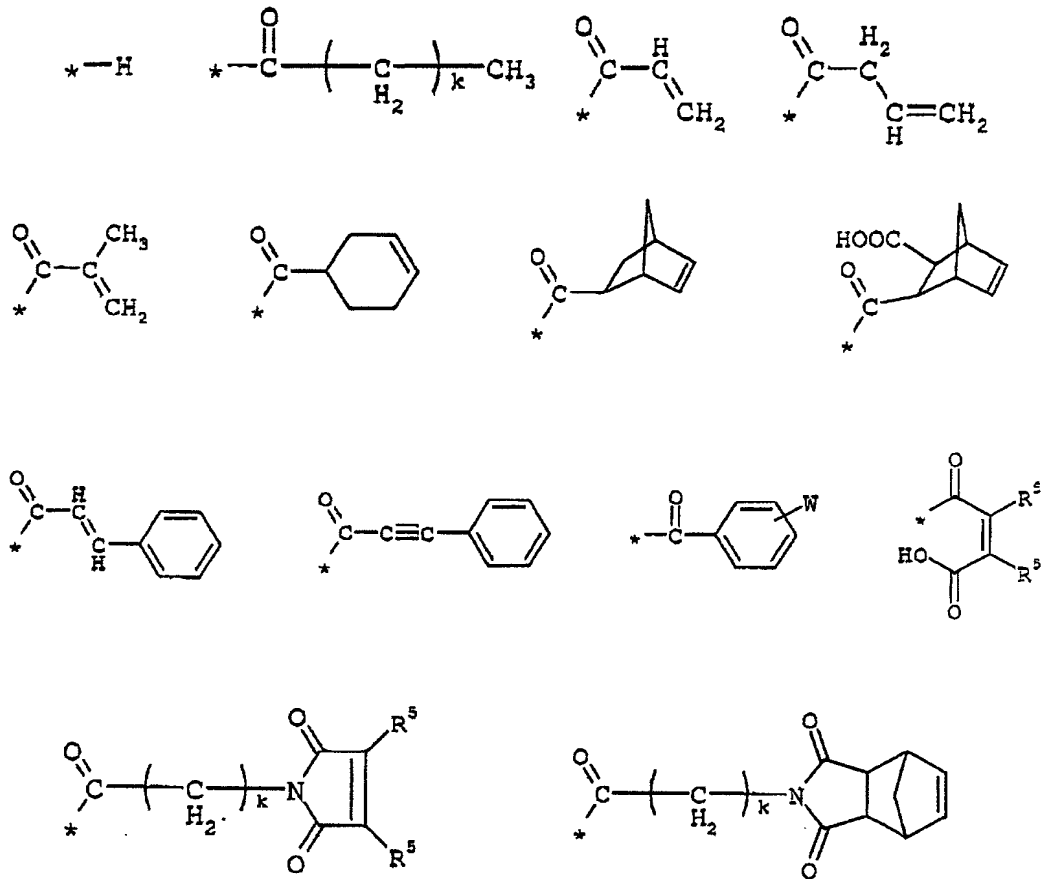
;

T is a substituent selected from the group consisting of

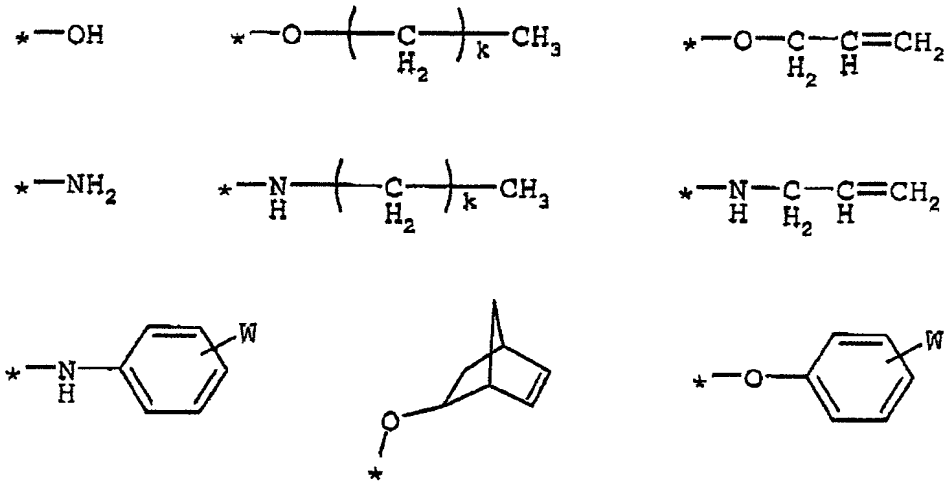


;

A, if at least one of a = 0 and f = 1, is a substituent selected from the group consisting of

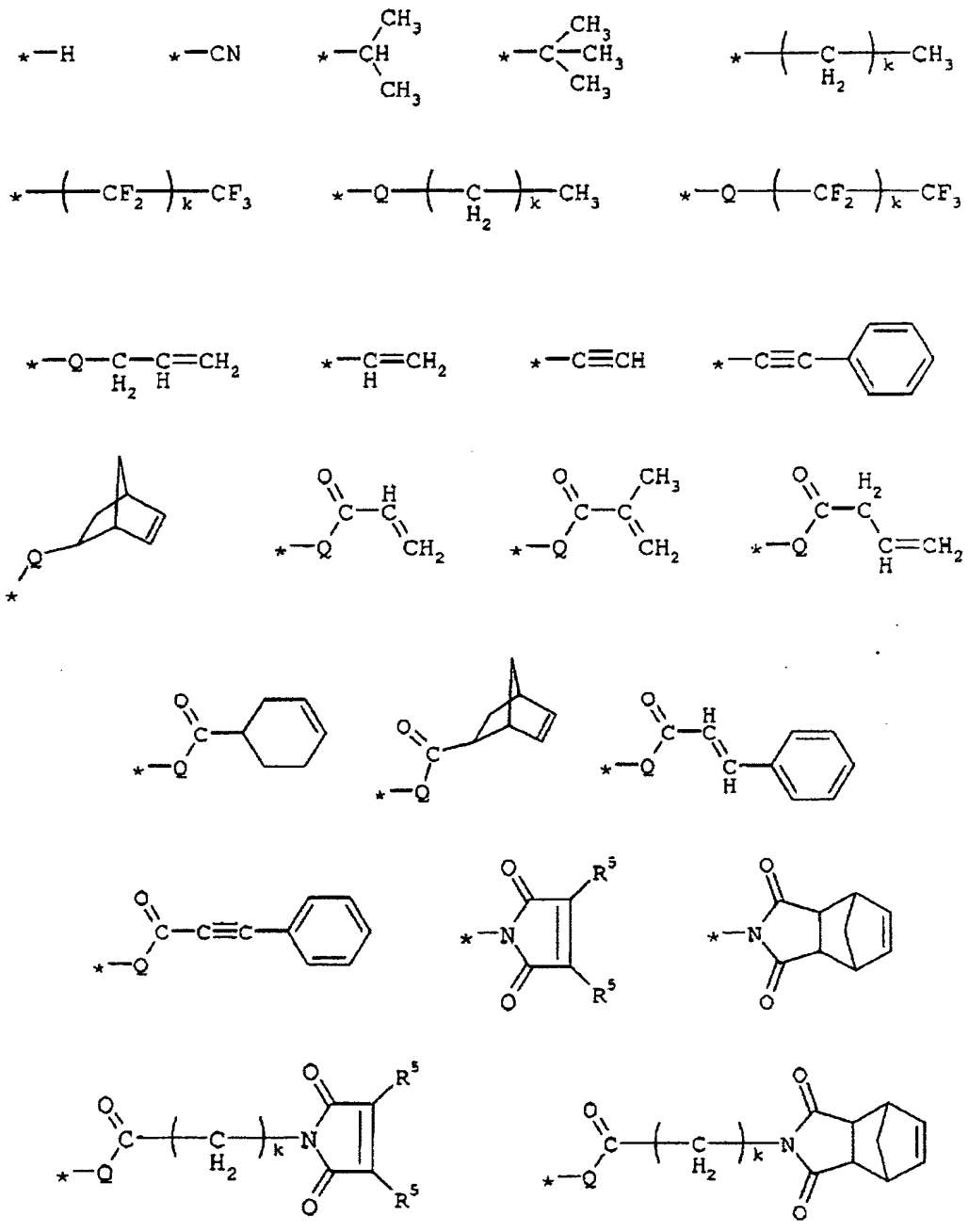


A , if at least one of a = 1 and f = 0, is a substituent selected from the group consisting of



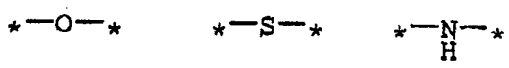
;

W is a substituent selected from the group consisting of

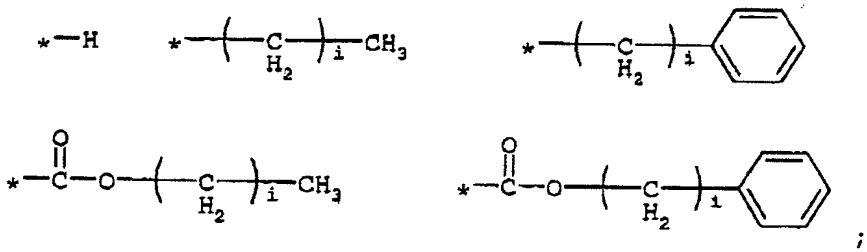


;

Q is a substituent selected from the group consisting of



$R^1$ is a substituent selected from the group consisting of

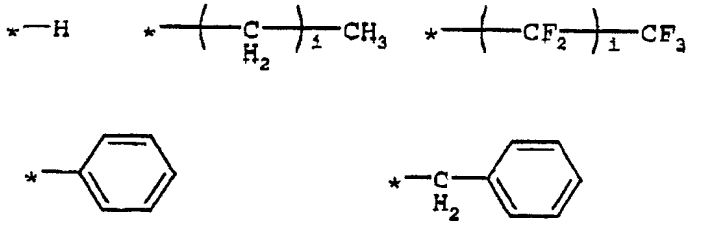


;

$R^2$ is a substituent selected from the group consisting of -H, an alkyl group having from 1 to 10 carbon atoms, an aryl group, and a heteroaryl group;

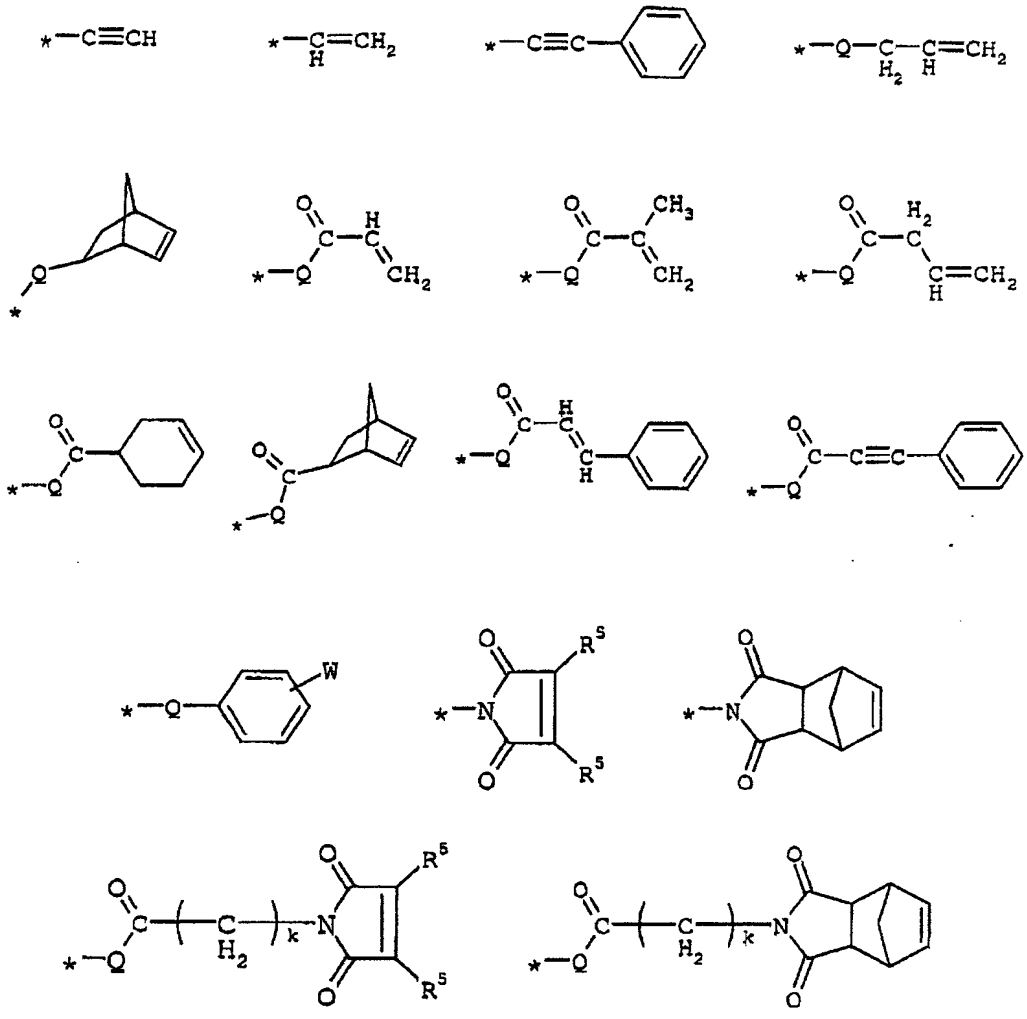
$R^3$ and $R^4$, in each case independently, are substituents selected from the group consisting of a substituted alkylene, an unsubstituted alkylene, arylene, and cycloalkylene group;

$R^5$ is a substituent selected from the group consisting of



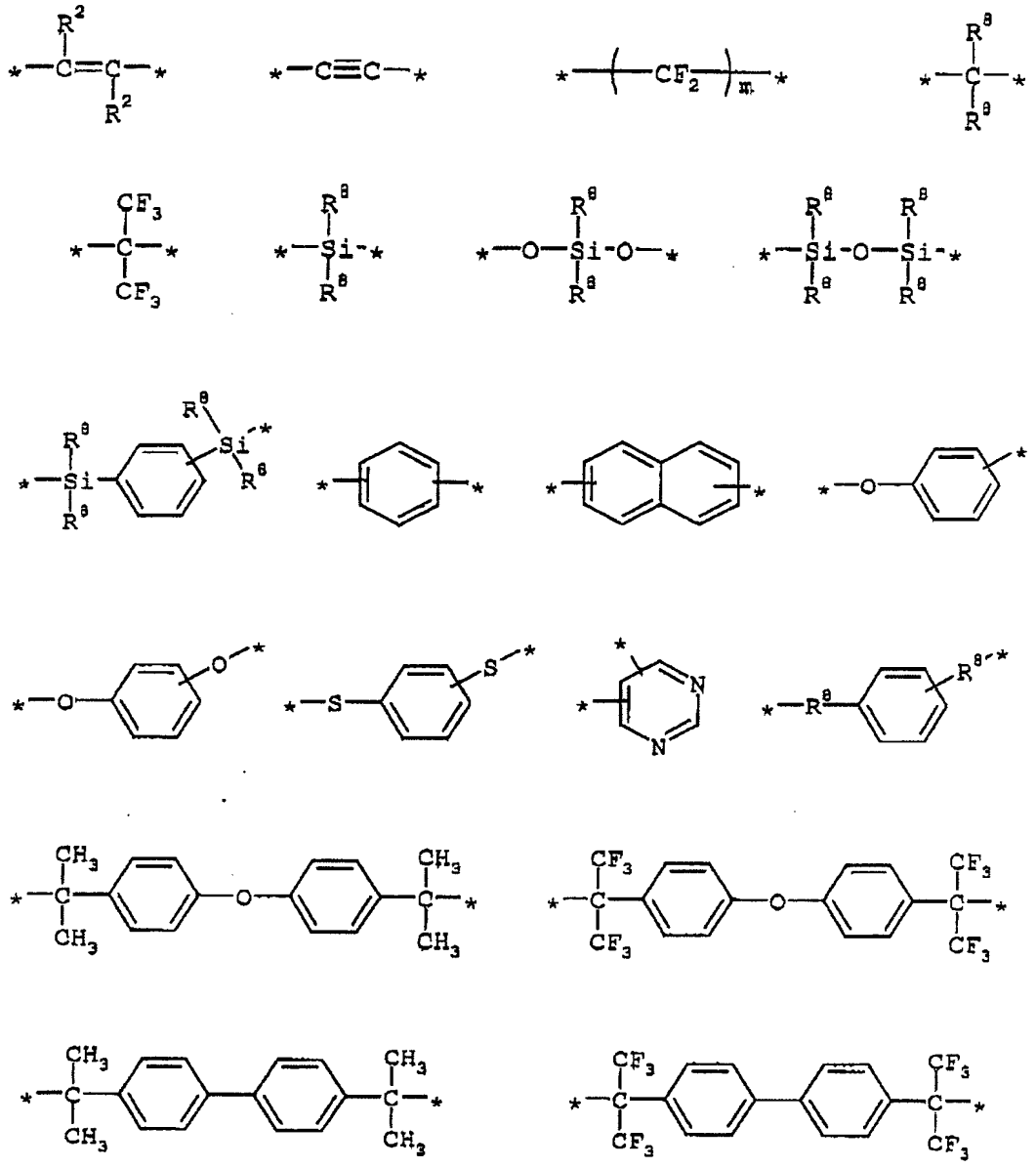
;

$R^6$ is a substituent selected from the group consisting of -H, $-CF_3$, -OH, -SH, -COOH, $-N(R^2)_2$, an alkyl group, aryl group, a heteroaryl group, and



;

$R^7$ is a substituent selected from the group consisting of -O-, -CO-, $-NR^4-$, -S-, $-SO_2-$, $-CH_2-$, $-S_2-$, and



$R^8$ is a substituent selected from the group consisting of an alkyl group having from 1 to 10 carbon atoms, an aryl group, and a heteroaryl group;

a is an integer from 0 to 1;

b is an integer from 1 to 200;

c is an integer from 0 to 200;

d is an integer from 0 to 50;

e is an integer from 0 to 50;

f is an integer from 0 to 1;

g is an integer from 0 to 100;

h is an integer from 0 to 100;

i is an integer from 0 to 10;

k is an integer from 0 to 10;

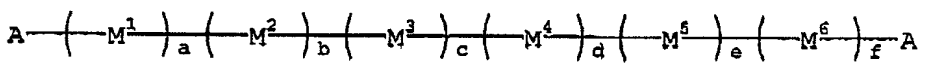
l is an integer from 1 to 10;

m is an integer from 1 to 10;

g and h are not simultaneously 0; and

l is an integer from 0 to 10 when $R^7$ is $-CH_2-$.

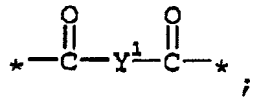
8. A process for preparing a poly-o-hydroxyamide having a formula I



Formula I

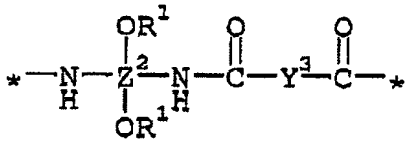
wherein

$M^1$ is



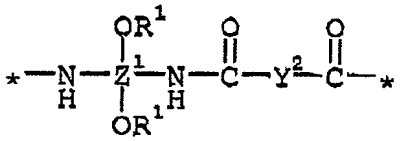
;

$M^2$ is

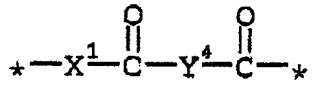


;

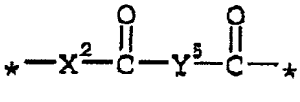
$M^3$, $M^4$, and $M^5$, in each case independently, are monomers selected from the group consisting of



,

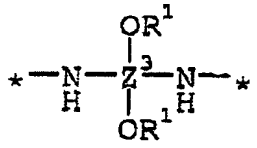


, and



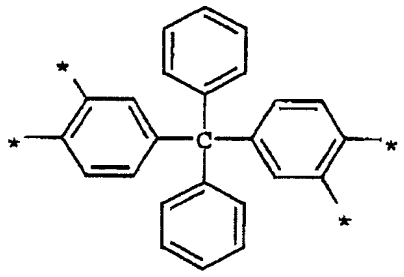
;

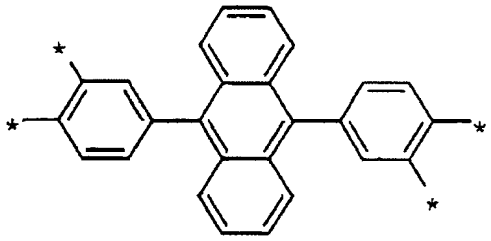
$M^6$ is

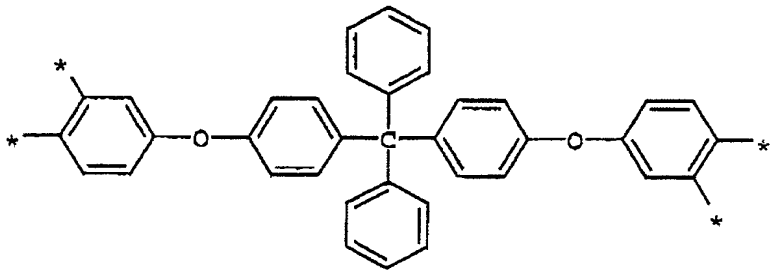


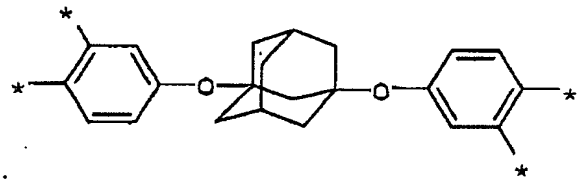
;

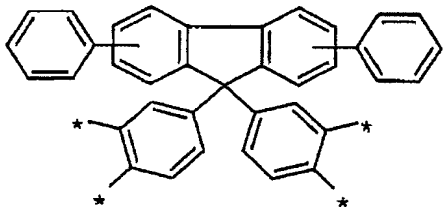
$Z^2$ is a substituent selected from the group consisting of

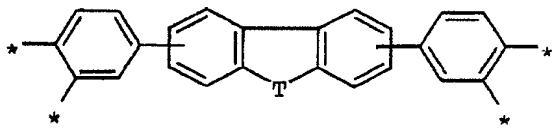


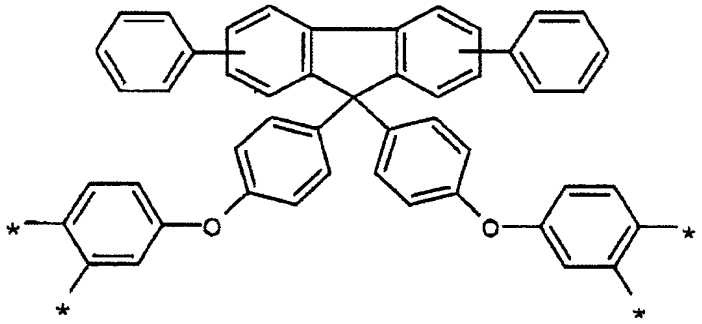


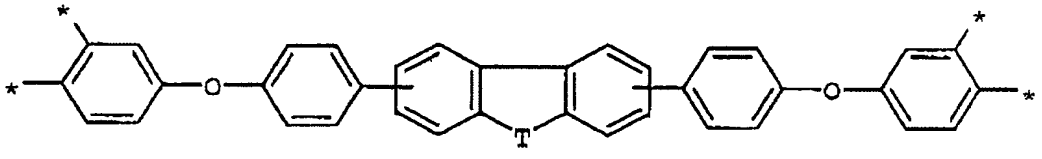






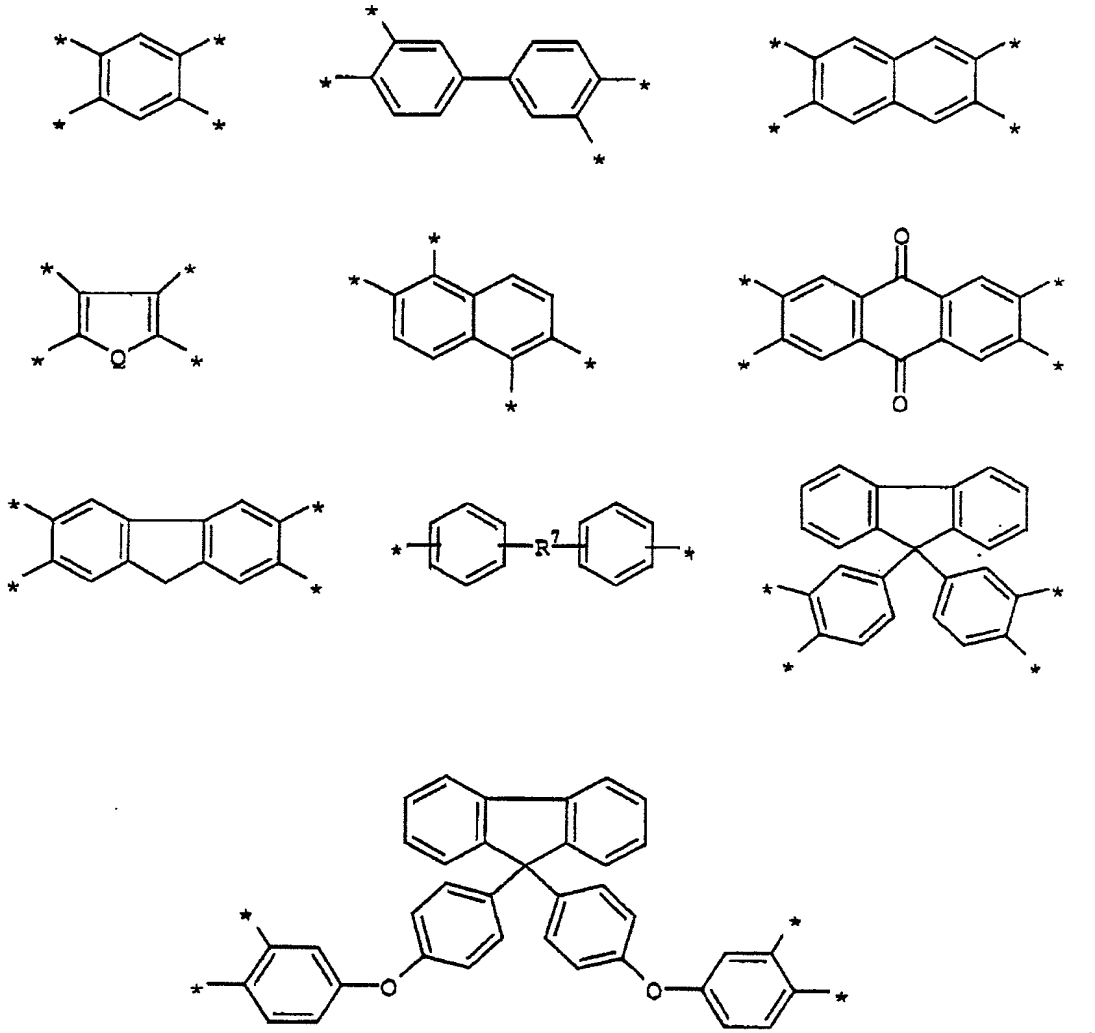






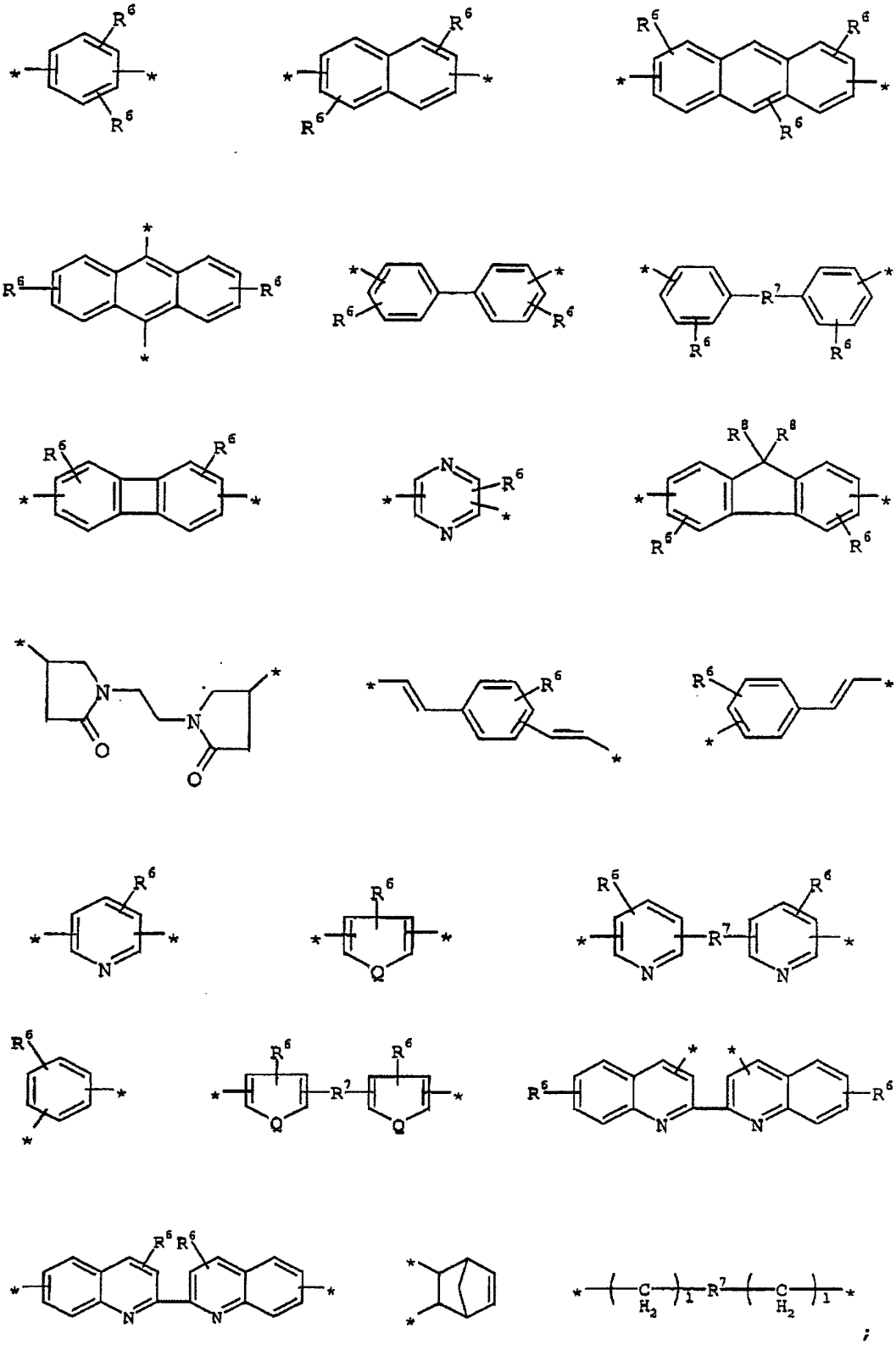
;

$Z^1$ and $Z^3$, in each case independently, are substituents selected from the group stated for $Z^2$, the group further consisting of



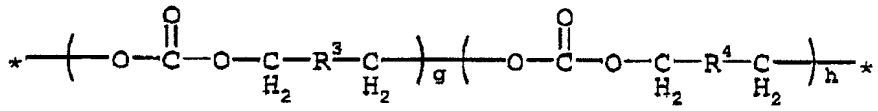
;

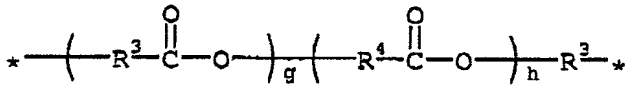
$Y^1$, $Y^2$, $Y^3$, $Y^4$, and $Y^5$ are substituents selected from the group consisting of

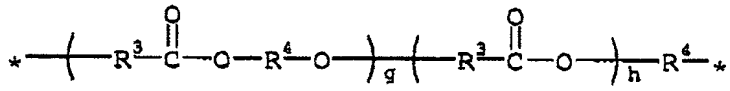


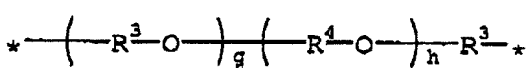
;

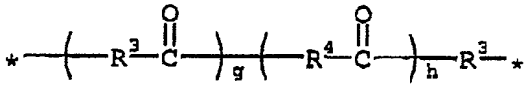
$X^1$ and $X^2$, in each case independently, are substituents selected from the group consisting of:

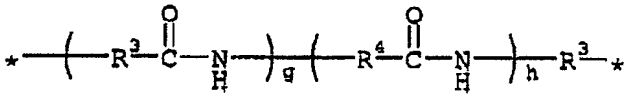






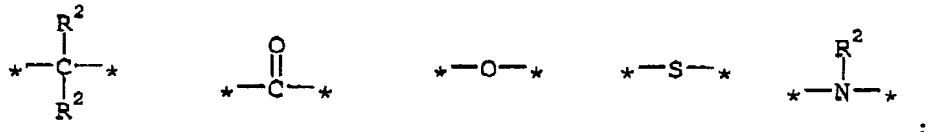






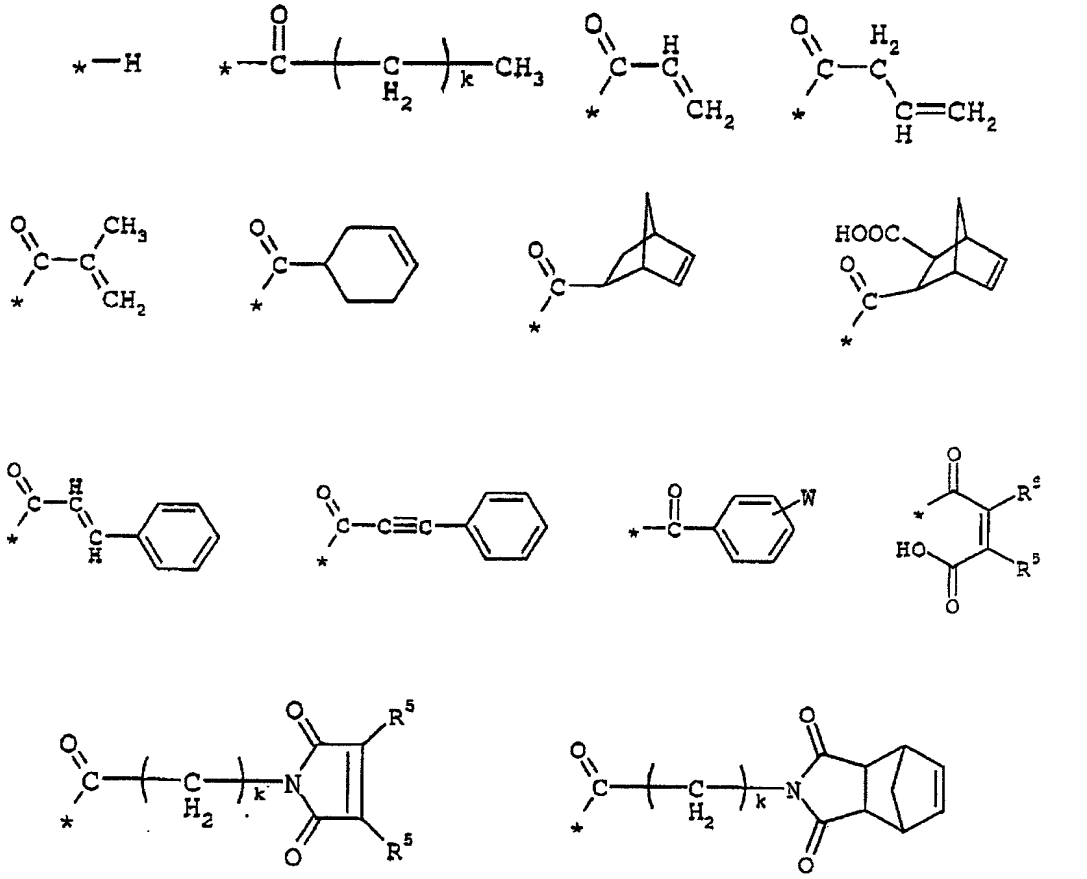
;

T is a substituent selected from the group consisting of



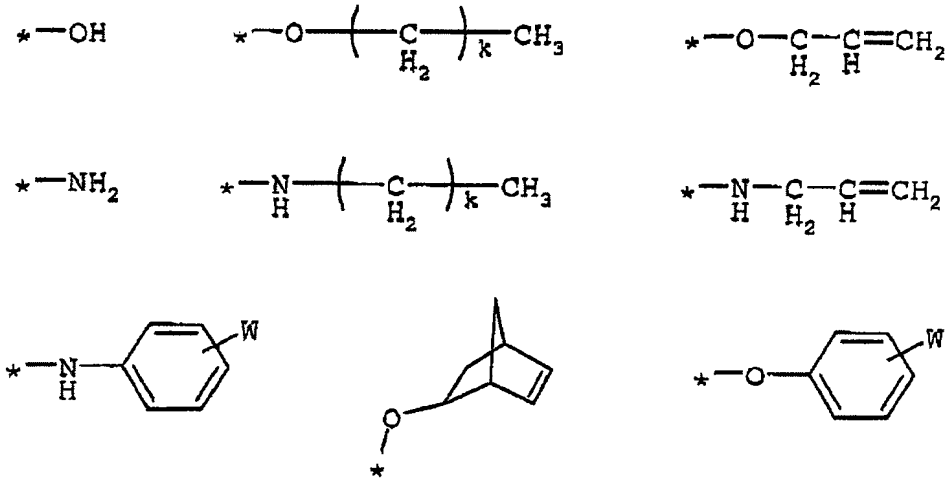
;

A, if at least one of a = 0 and f = 1, is a substituent selected from the group consisting of



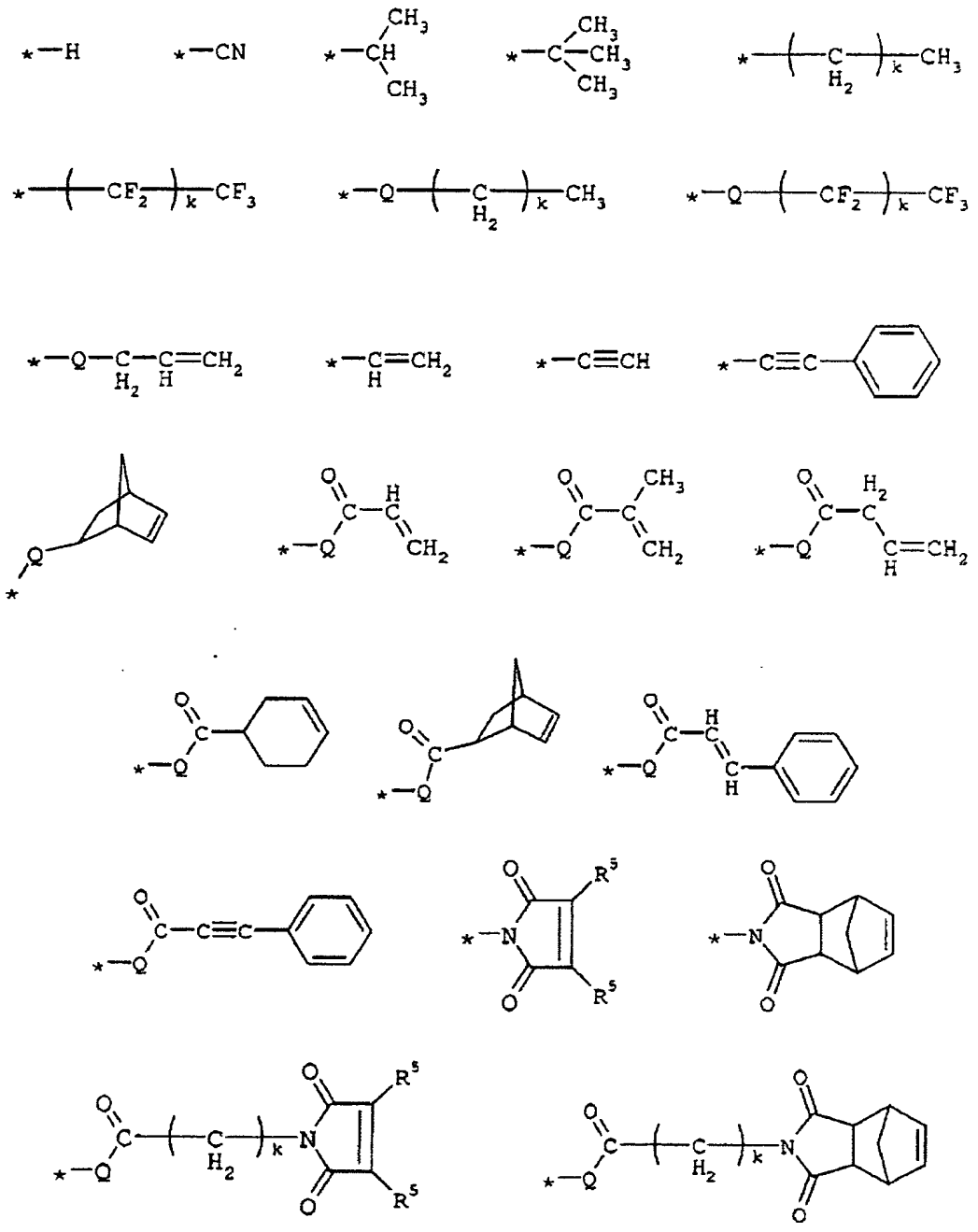
;

A, if at least one of a = 1 and f = 0, is a substituent selected from the group consisting of



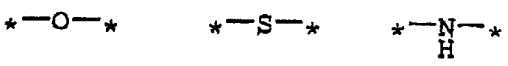
;

W is a substituent selected from the group consisting of



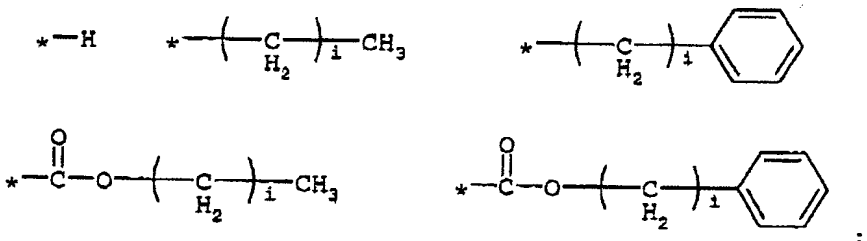
;

Q is a substituent selected from the group consisting of



;

$R^1$ is a substituent selected from the group consisting of

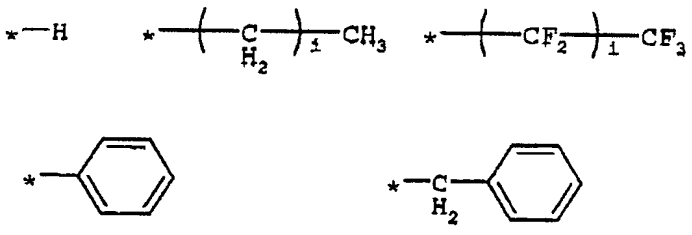


;

$R^2$ is a substituent selected from the group consisting of -H, an alkyl group having from 1 to 10 carbon atoms, an aryl group, and a heteroaryl group;

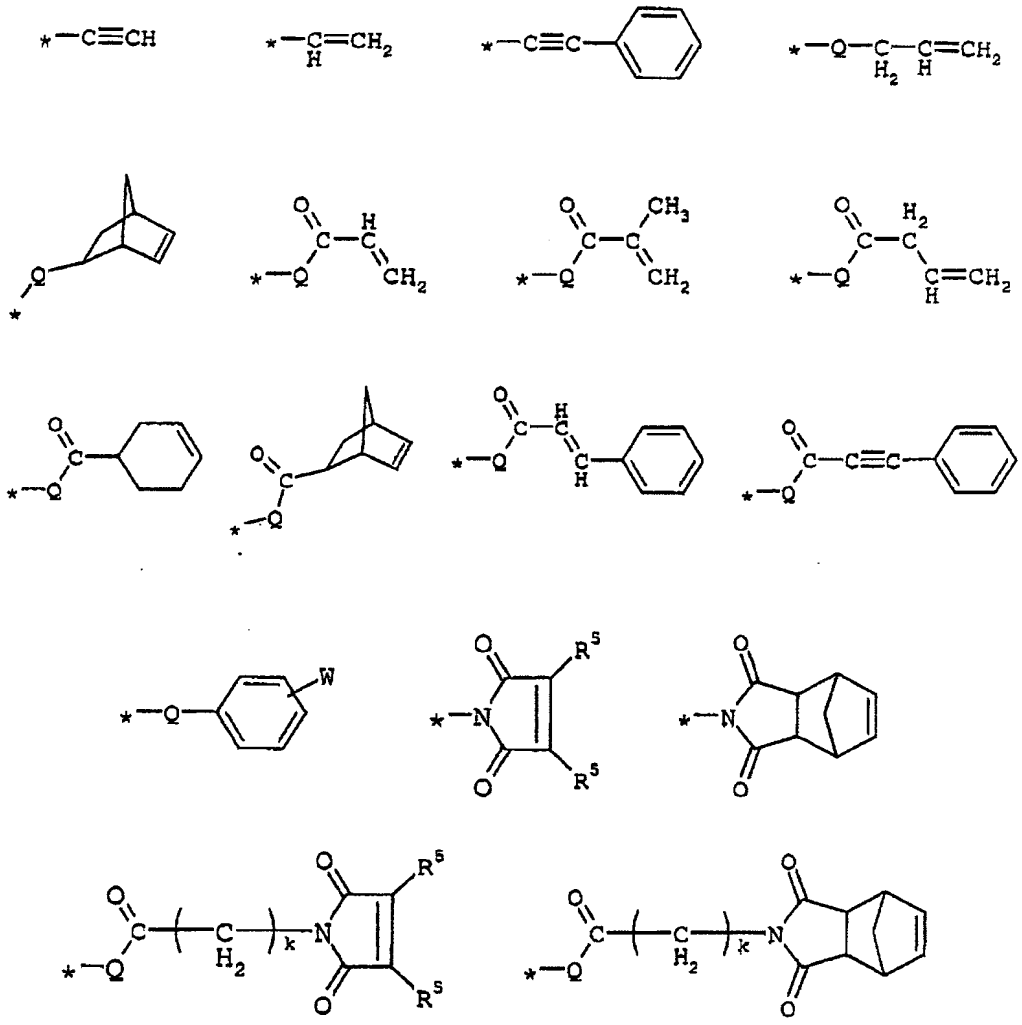
$R^3$ and $R^4$, in each case independently, are substituents selected from the group consisting of a substituted alkylene, an unsubstituted alkylene, arylene, and cycloalkylene group;

$R^5$ is a substituent selected from the group consisting of



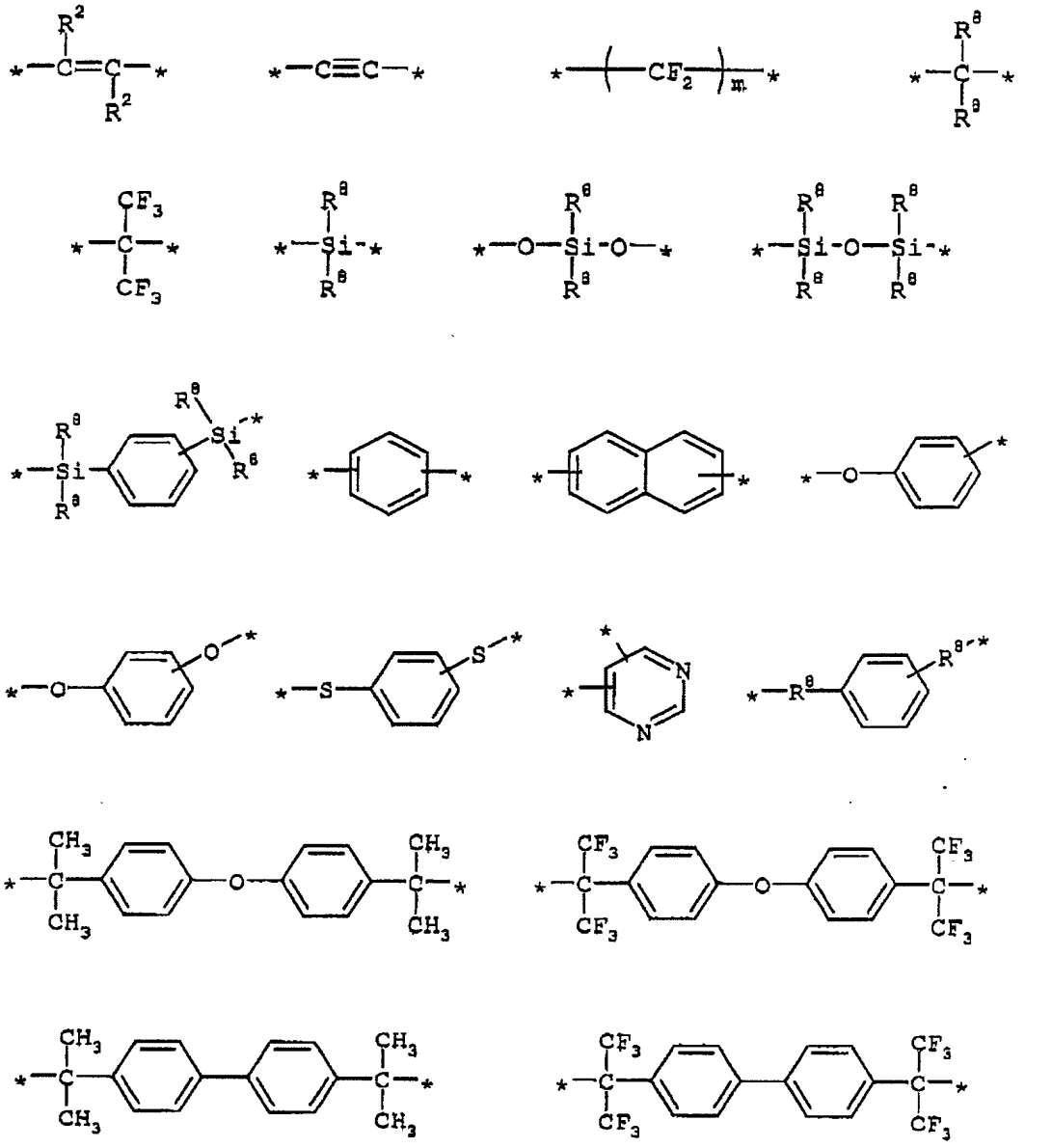
;

$R^6$ is a substituent selected from the group consisting of -H, -$CF_3$, -OH, -SH, -COOH, -$N(R^2)_2$, an alkyl group, aryl group, a heteroaryl group, and



;

$R^7$ is a substituent selected from the group consisting of -O-, -CO-, -$NR^4$-, -S-, -$SO_2$-, -$CH_2$-, -$S_2$-, and



;

$R^8$ is a substituent selected from the group consisting of an alkyl group having from 1 to 10 carbon atoms, an aryl group, and a heteroaryl group;

a is an integer from 0 to 1;

b is an integer from 1 to 200;

c is an integer from 0 to 200;

d is an integer from 0 to 50;

e is an integer from 0 to 50;

f is an integer from 0 to 1;

g is an integer from 0 to 100;

h is an integer from 0 to 100;

i is an integer from 0 to 10;

k is an integer from 0 to 10;

l is an integer from 1 to 10;

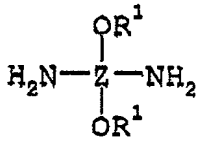
m is an integer from 1 to 10;

g and h are not simultaneously 0; and

l is an integer from 0 to 10 when $R^7$ is $-CH_2-$;

the method which comprises:

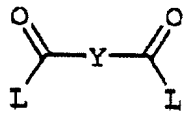
reacting a monomer having a formula II



Formula II,

Z corresponding to one of $Z^1$, $Z^2$, and $Z^3$,

with at least one of a dicarboxylic acid and an activated dicarboxylic acid derivative having a formula III



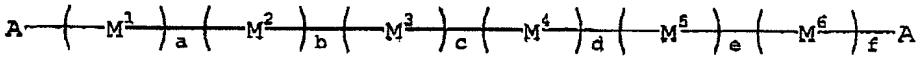
Formula III,

L being a substituent selected from the group consisting of a hydroxyl group and an activating group;

Y being one of $Y^1$, $Y^2$, $Y^3$, $Y^4$, and $Y^5$.

9. The process according to claim 8, which further comprises including a base during the reacting step.

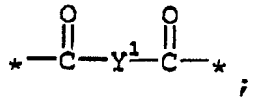
10. A process for preparing a polybenzoxazole, which comprises heating a poly-o-hydroxyamide having a formula I



Formula I

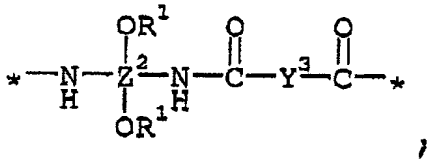
wherein

$M^1$ is



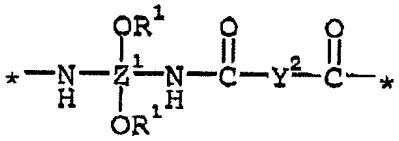
;

$M^2$ is



,

$M^3$, $M^4$, and $M^5$, in each case independently, are monomers selected from the group consisting of



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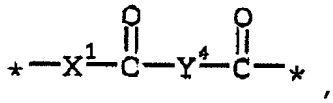
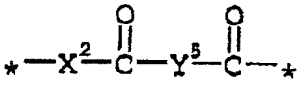
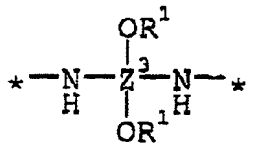


, and



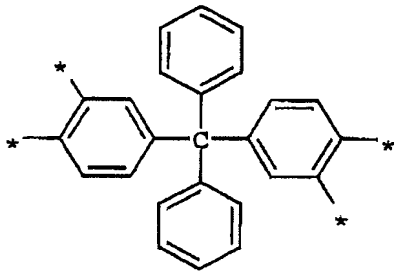
;

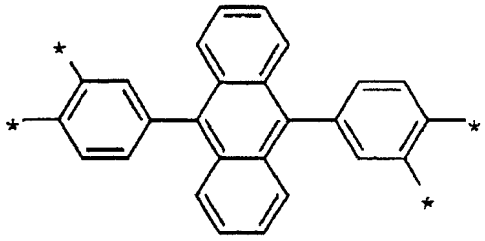
$M^6$ is

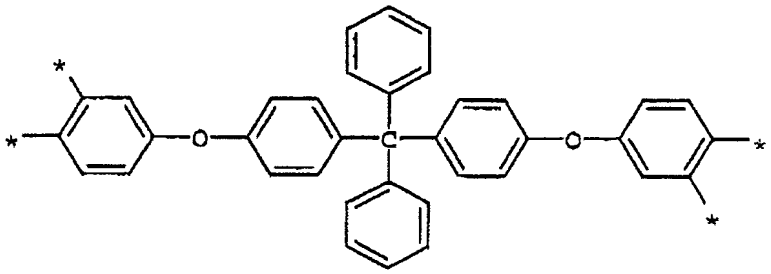


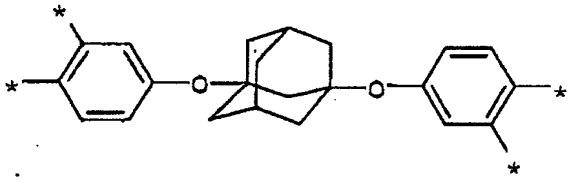
;

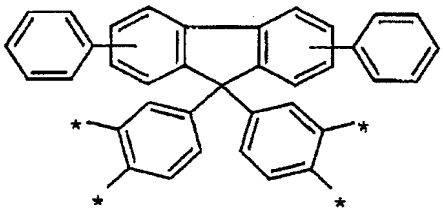
$Z^2$ is a substituent selected from the group consisting of

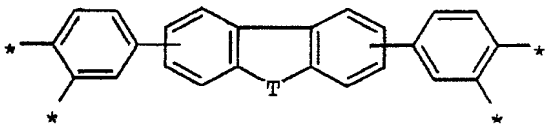


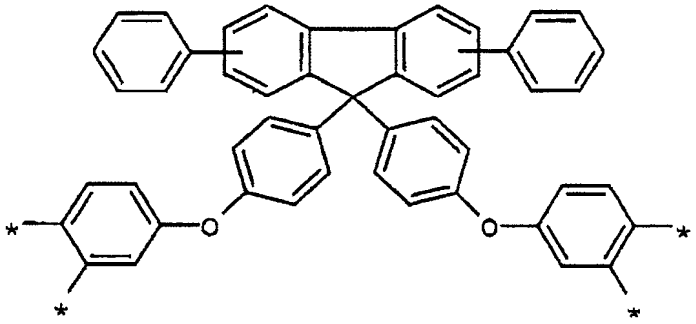


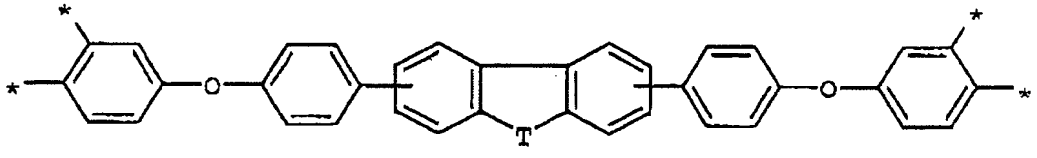




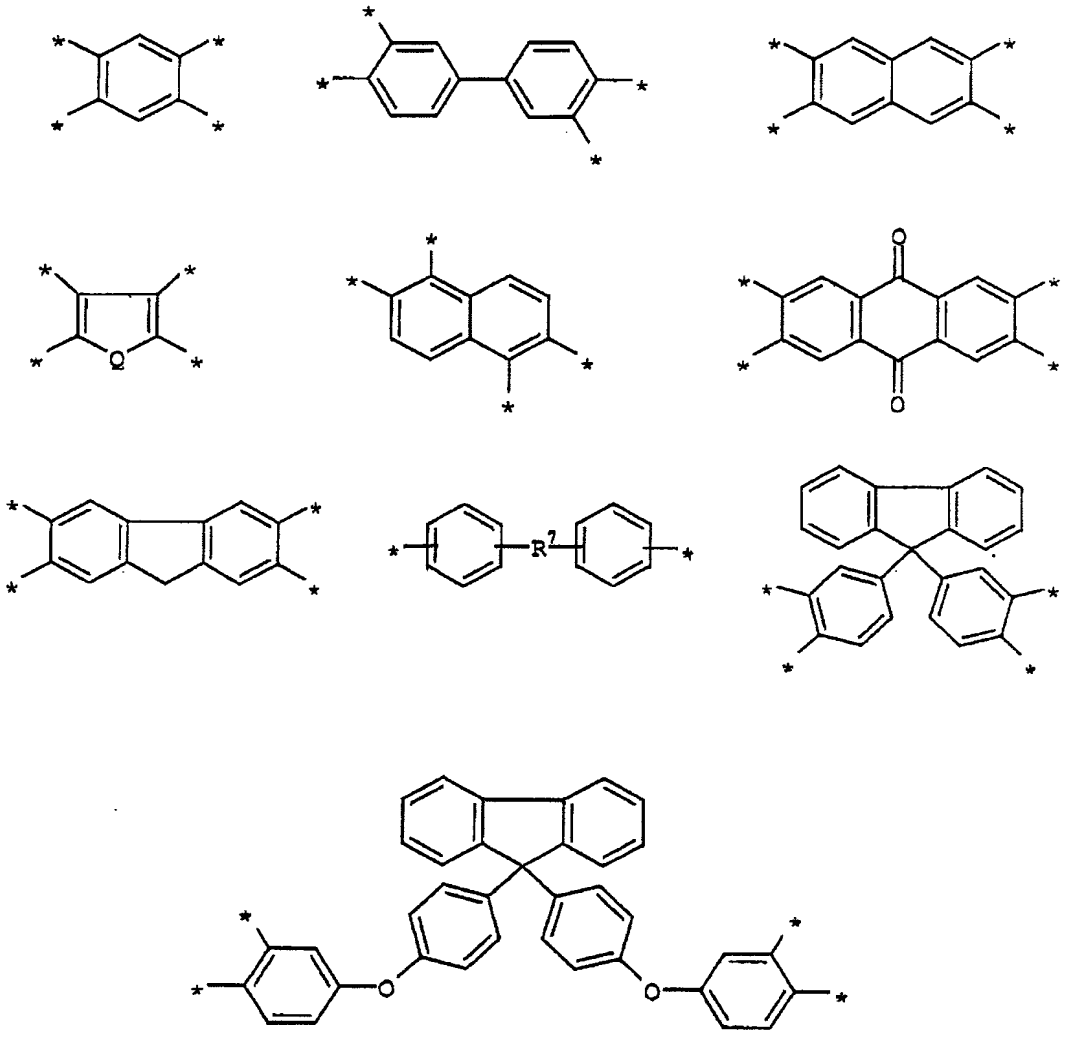






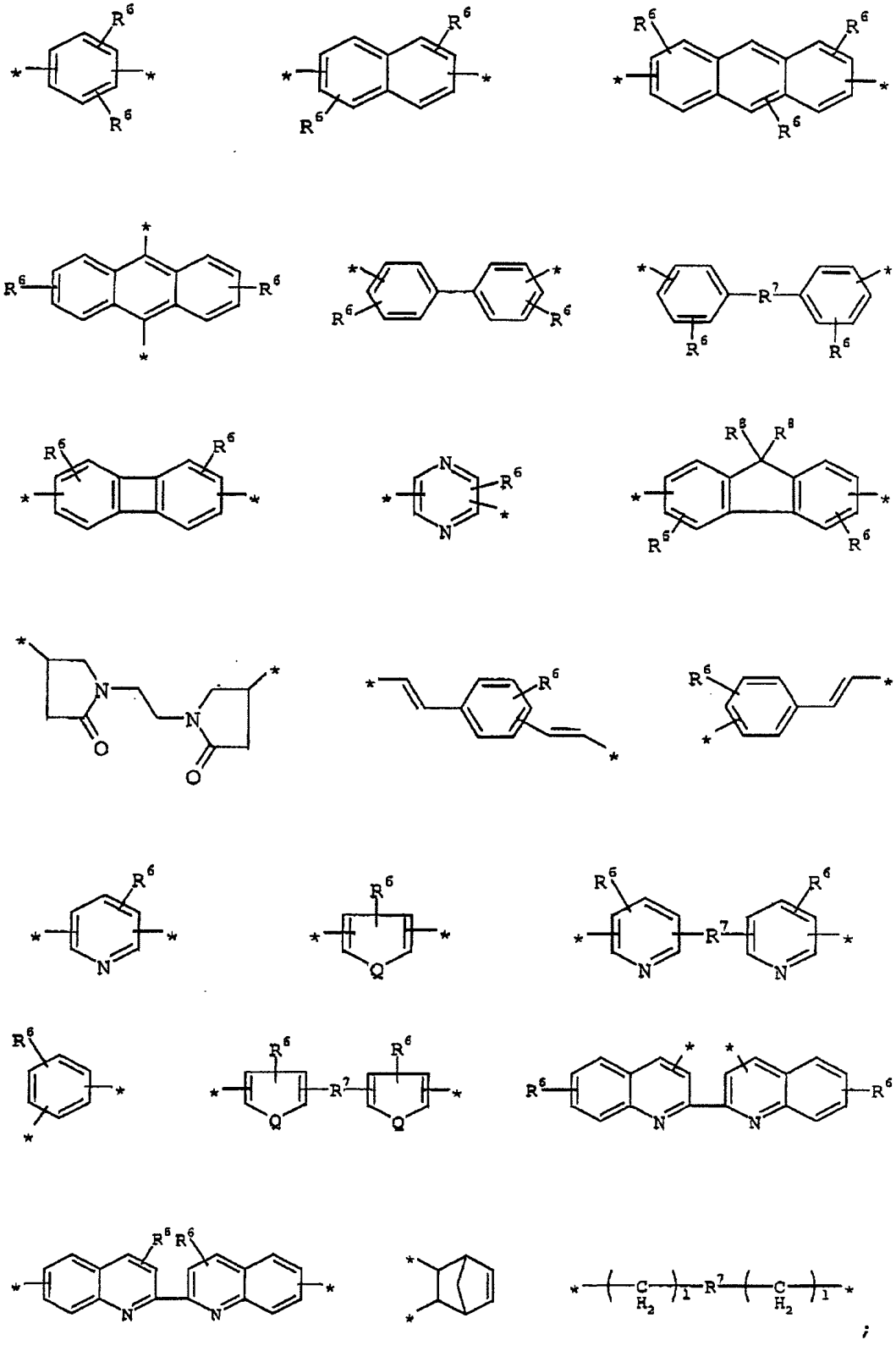


$Z^1$ and $Z^3$, in each case independently, are substituents selected from the group stated for $Z^2$, the group further consisting of

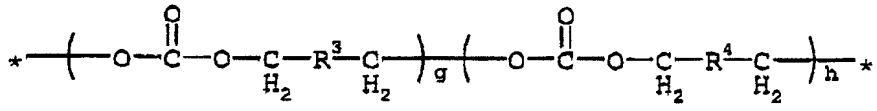


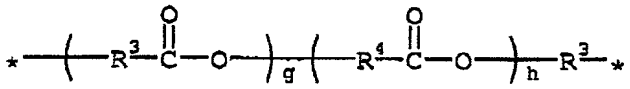
;

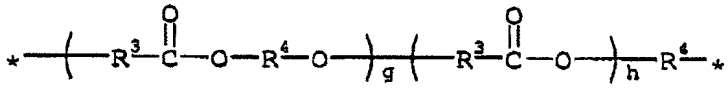
$Y^1$, $Y^2$, $Y^3$, $Y^4$, and $Y^5$ are substituents selected from the group consisting of

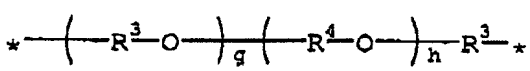


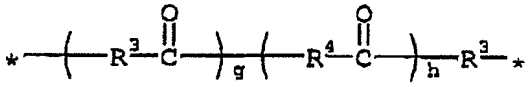
$X^1$ and $X^2$, in each case independently, are substituents selected from the group consisting of:

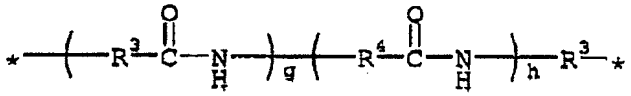






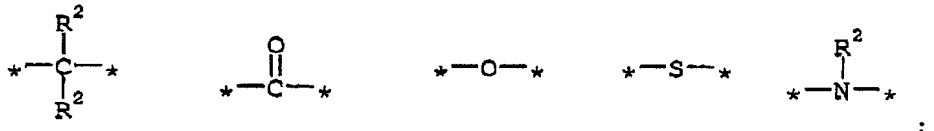






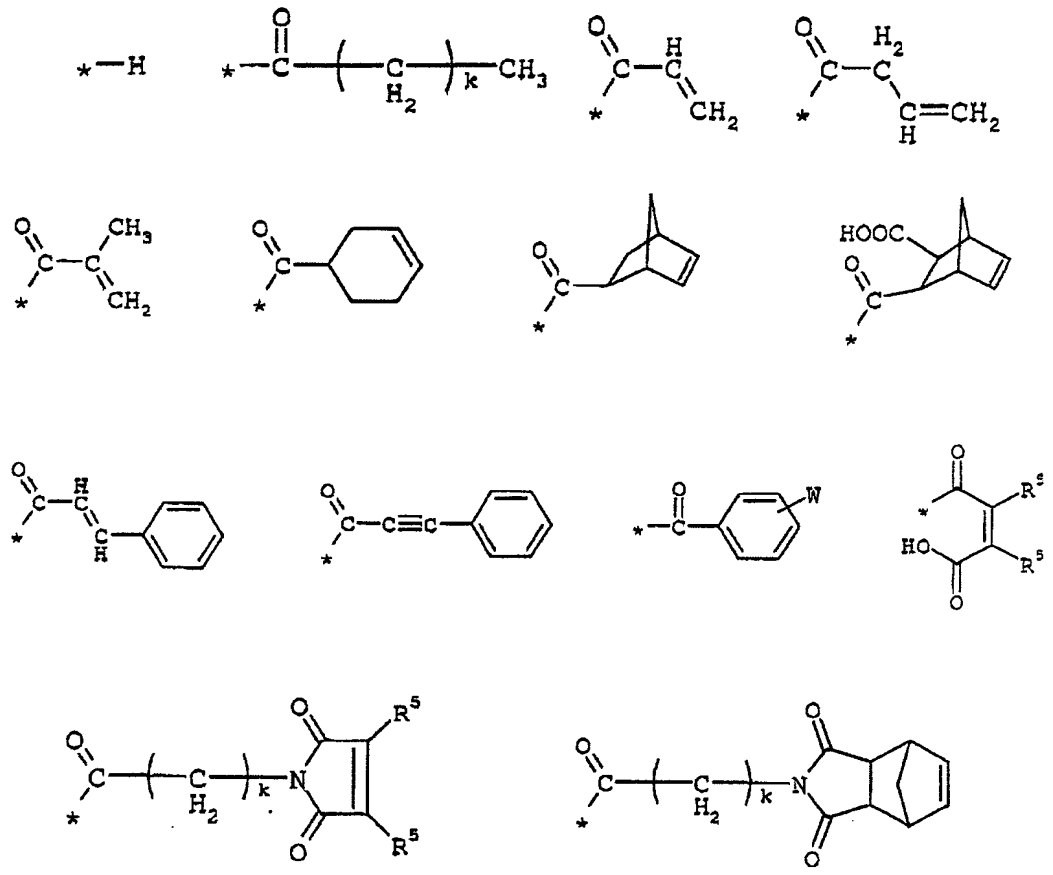
;

T is a substituent selected from the group consisting of



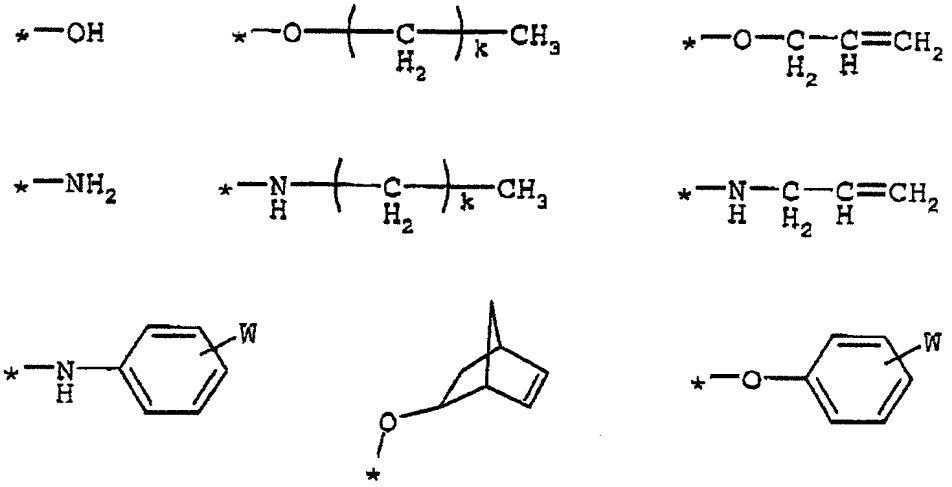
;

A, if at least one of a = 0 and f = 1, is a substituent selected from the group consisting of



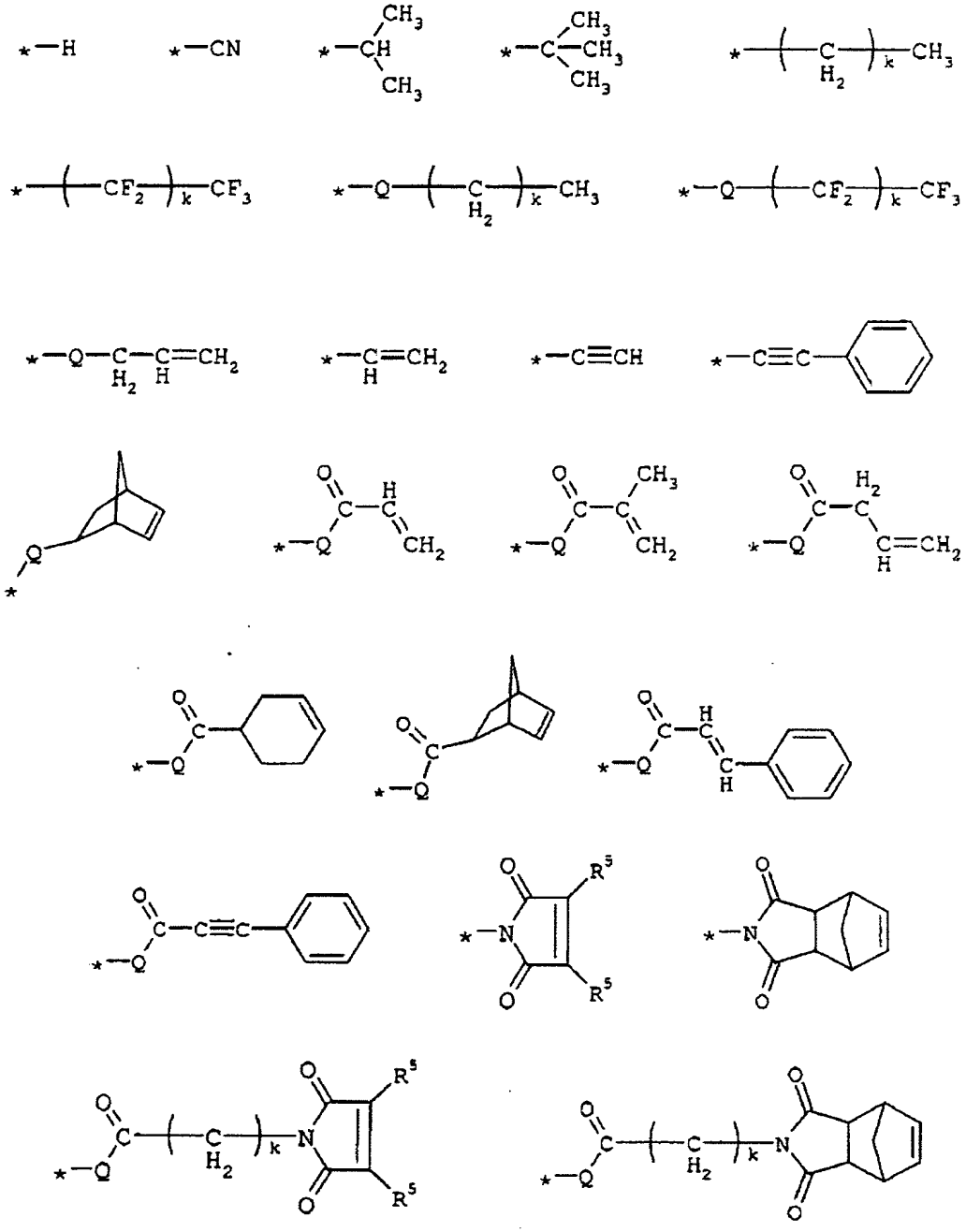
;

A, if at least one of a = 1 and f = 0, is a substituent selected from the group consisting of



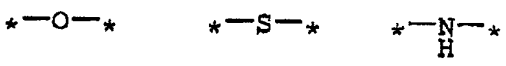
;

W is a substituent selected from the group consisting of



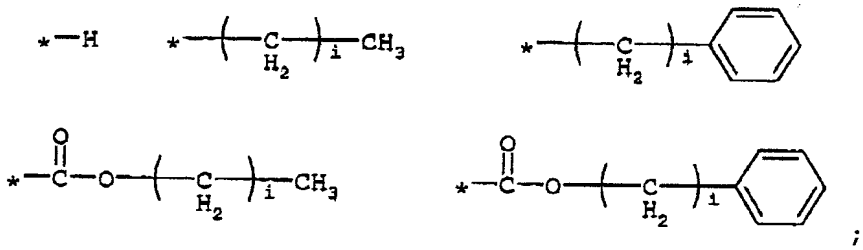
;

Q is a substituent selected from the group consisting of



;

$R^1$ is a substituent selected from the group consisting of

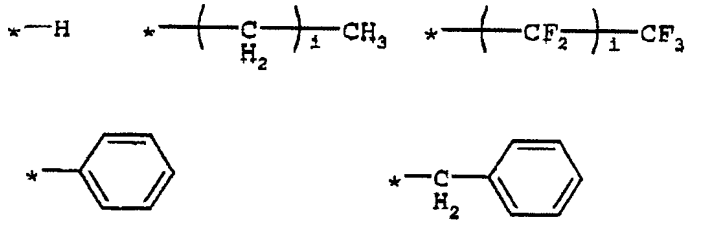


;

$R^2$ is a substituent selected from the group consisting of -H, an alkyl group having from 1 to 10 carbon atoms, an aryl group, and a heteroaryl group;

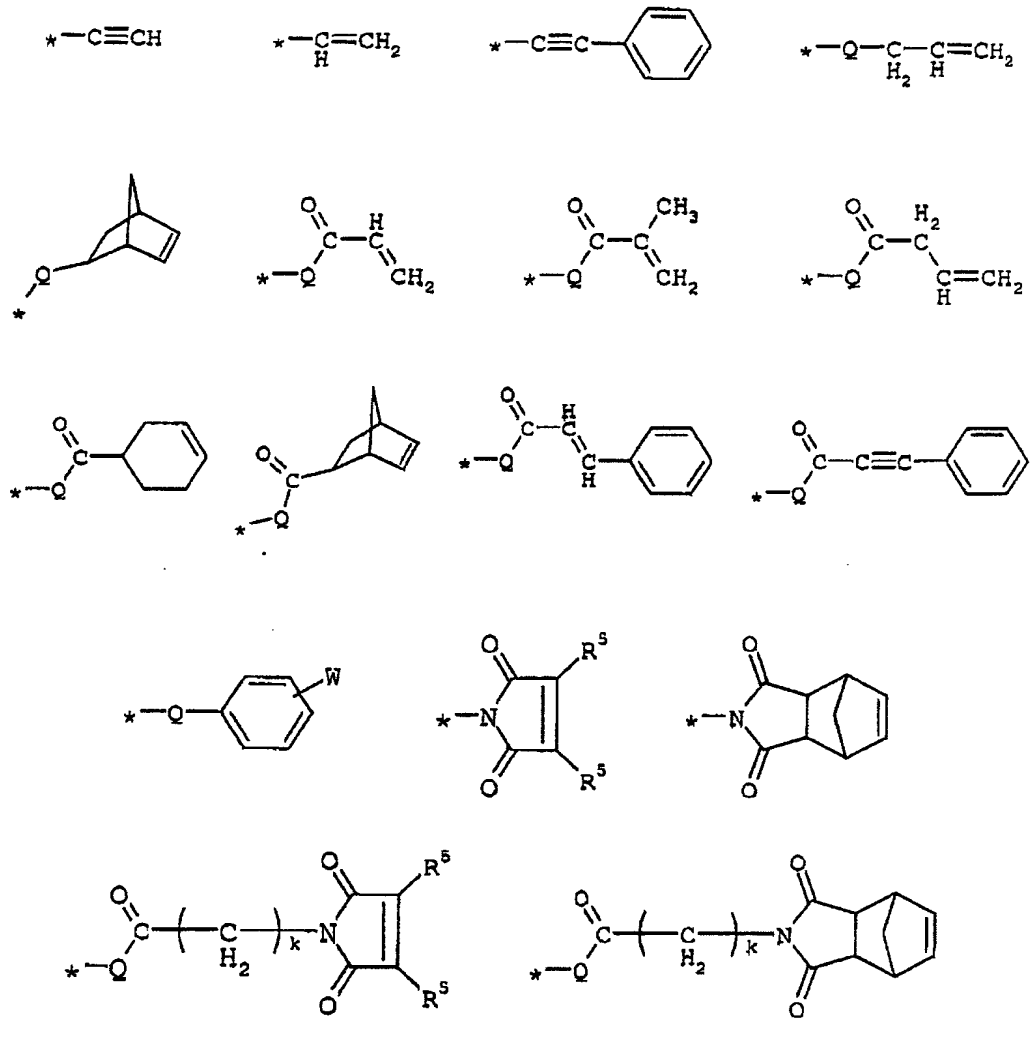
$R^3$ and $R^4$, in each case independently, are substituents selected from the group consisting of a substituted alkylene, an unsubstituted alkylene, arylene, and cycloalkylene group;

$R^5$ is a substituent selected from the group consisting of



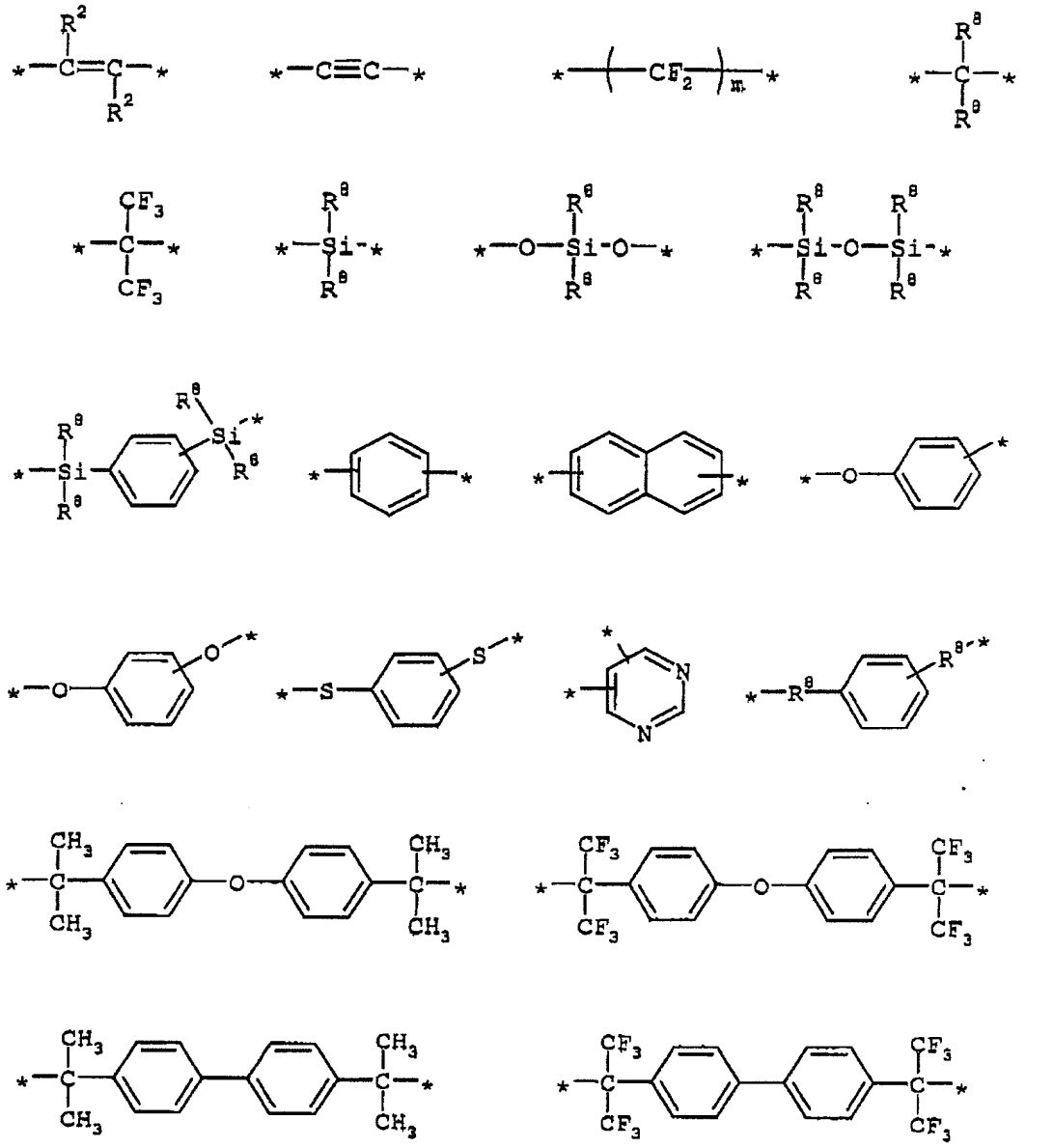
;

$R^6$ is a substituent selected from the group consisting of -H, $-CF_3$, -OH, -SH, -COOH, $-N(R^2)_2$, an alkyl group, aryl group, a heteroaryl group, and



;

$R^7$ is a substituent selected from the group consisting of -O-, -CO-, $-NR^4-$, -S-, $-SO_2-$, $-CH_2-$, $-S_2-$, and



;

$R^8$ is a substituent selected from the group consisting of an alkyl group having from 1 to 10 carbon atoms, an aryl group, and a heteroaryl group;

a is an integer from 0 to 1;

b is an integer from 1 to 200;

c is an integer from 0 to 200;

d is an integer from 0 to 50;

e is an integer from 0 to 50;

f is an integer from 0 to 1;

g is an integer from 0 to 100;

h is an integer from 0 to 100;

i is an integer from 0 to 10;

k is an integer from 0 to 10;

l is an integer from 1 to 10;

m is an integer from 1 to 10;

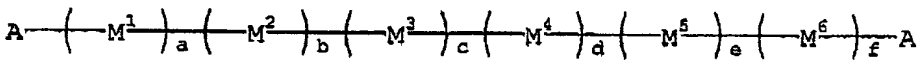
g and h are not simultaneously 0; and

l is an integer from 0 to 10 when $R^7$ is $-CH_2-$.

11. An electronic component comprising a dielectric including a polybenzoxazole according to claim 7.

12. A process for producing an electronic component including a polybenzoxazole, which comprises:

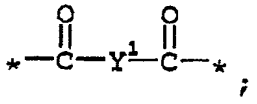
preparing, in a solvent, a solution of a poly-o-hydroxyamide having a formula I



Formula I

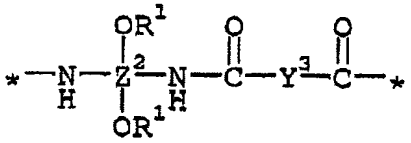
wherein

$M^1$ is



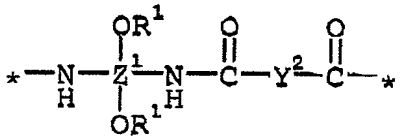
;

$M^2$ is



;

$M^3$, $M^4$, and $M^5$, in each case independently, are monomers selected from the group consisting of



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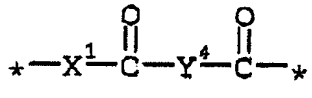
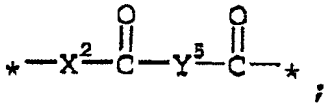
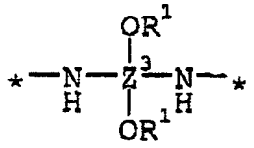


, and



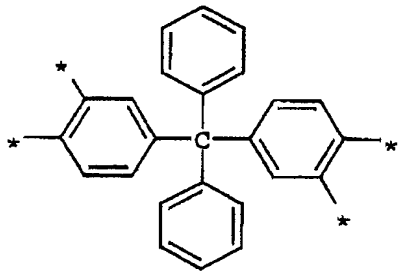
;

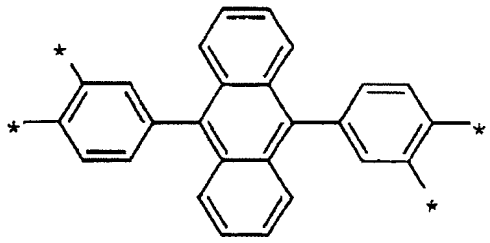
$M^6$ is

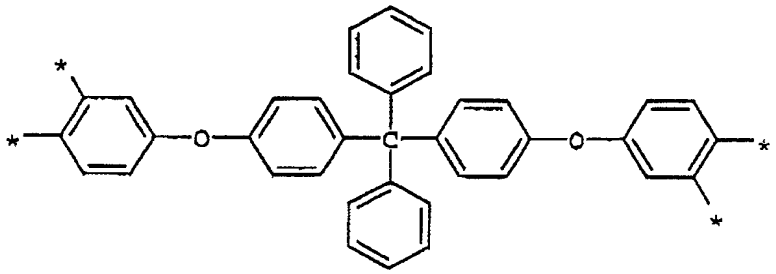


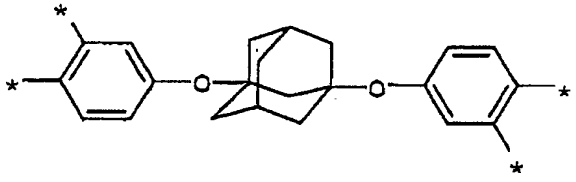
;

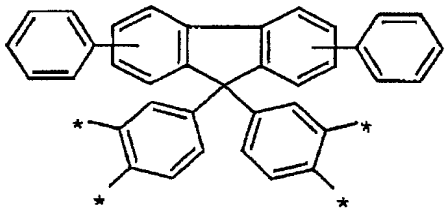
$Z^2$ is a substituent selected from the group consisting of

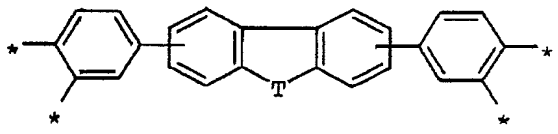


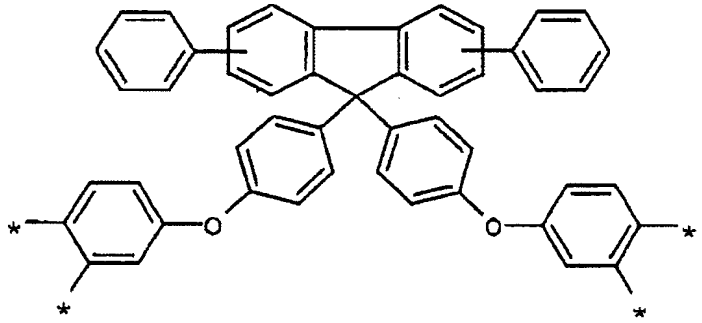


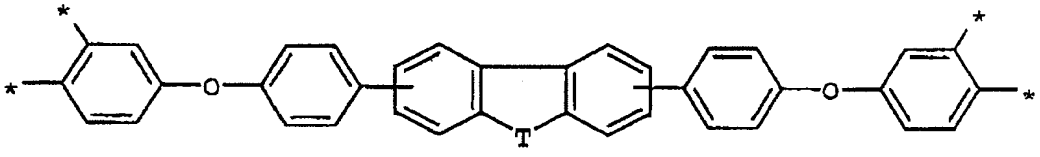






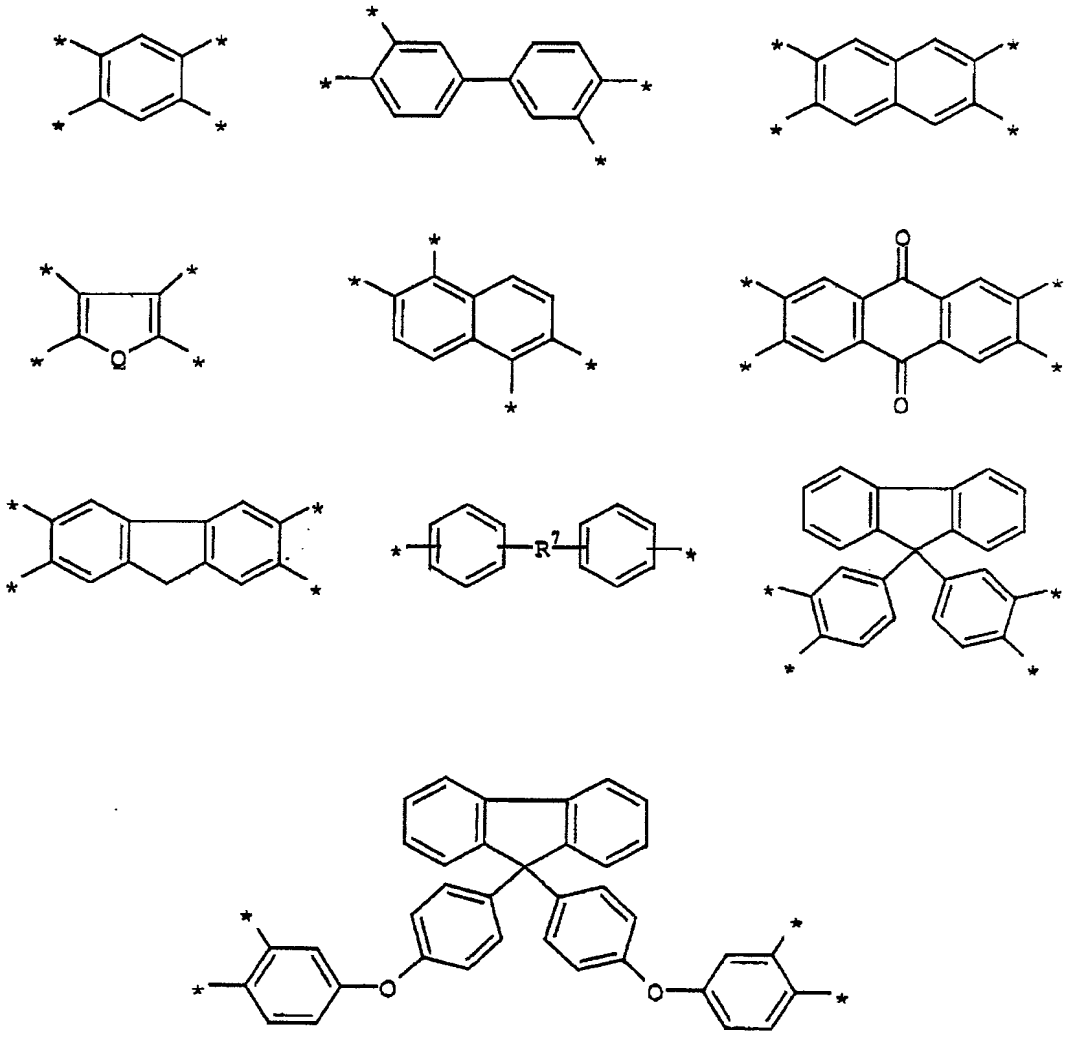






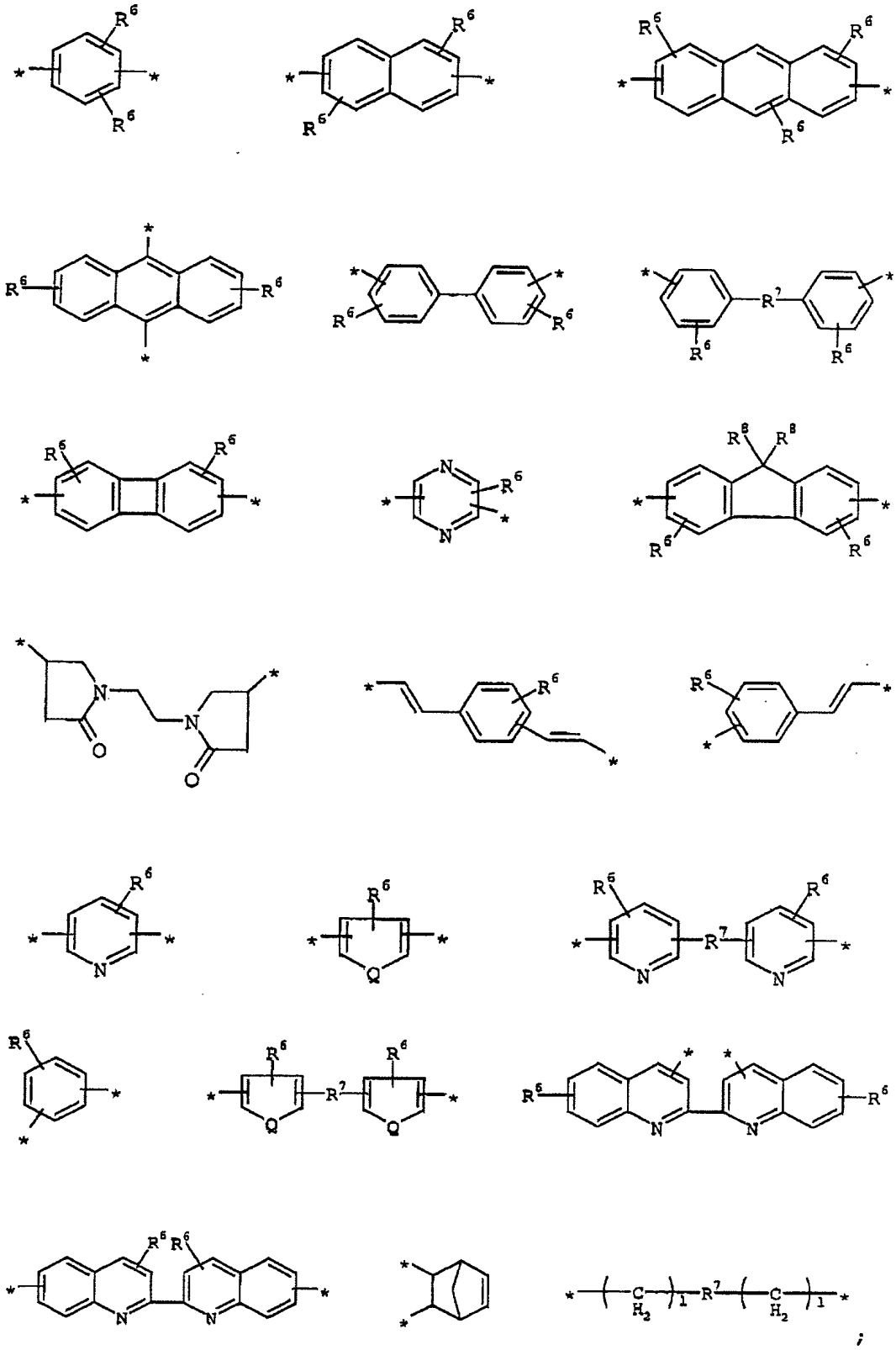
;

$Z^1$ and $Z^3$, in each case independently, are substituents selected from the group stated for $Z^2$, the group further consisting of

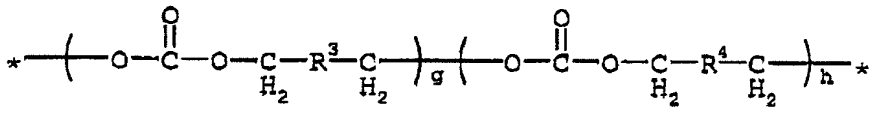


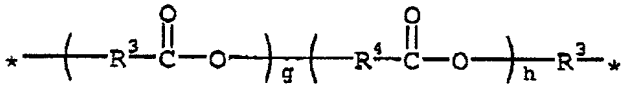
;

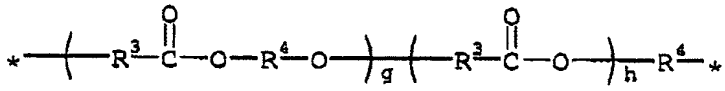
$Y^1$, $Y^2$, $Y^3$, $Y^4$, and $Y^5$ are substituents selected from the group consisting of

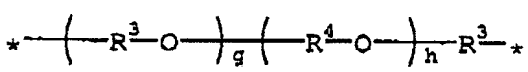


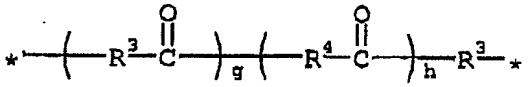
$X^1$ and $X^2$, in each case independently, are substituents selected from the group consisting of:

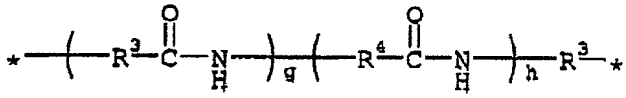






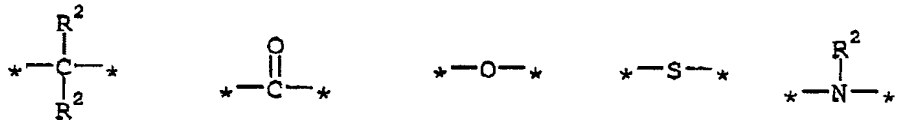






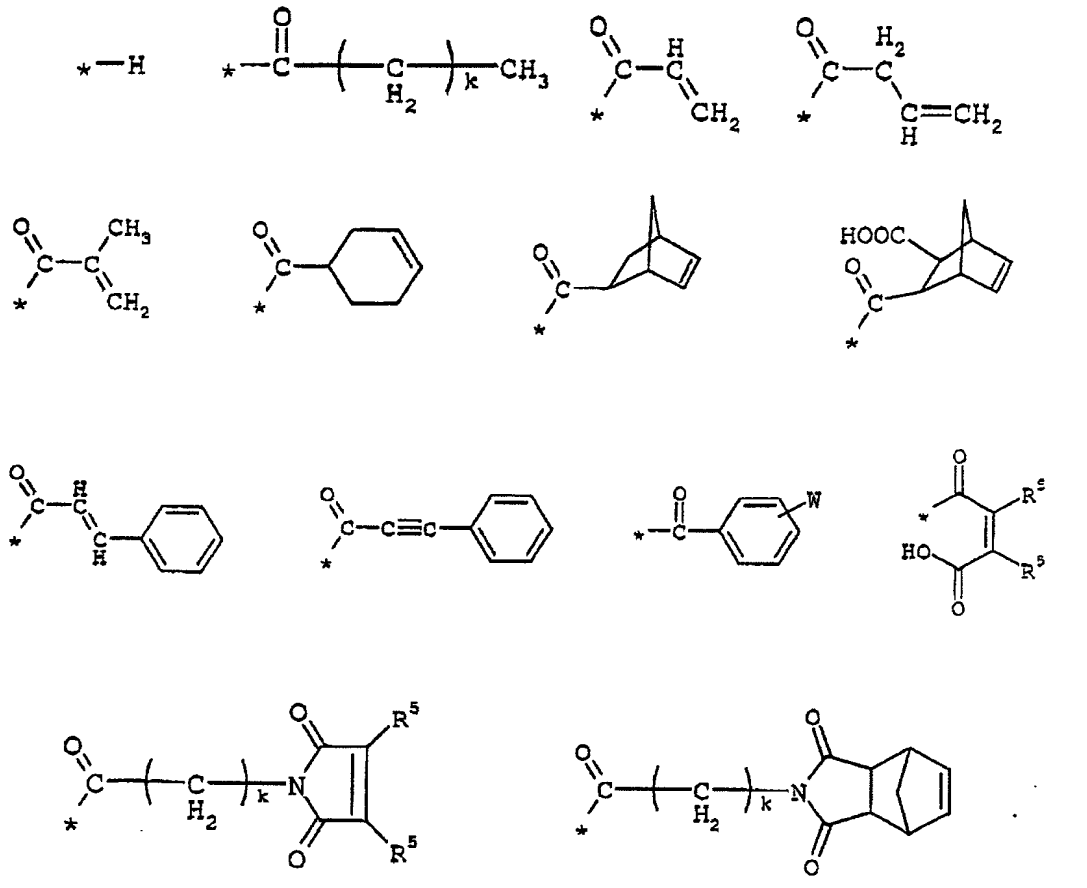
;

T is a substituent selected from the group consisting of



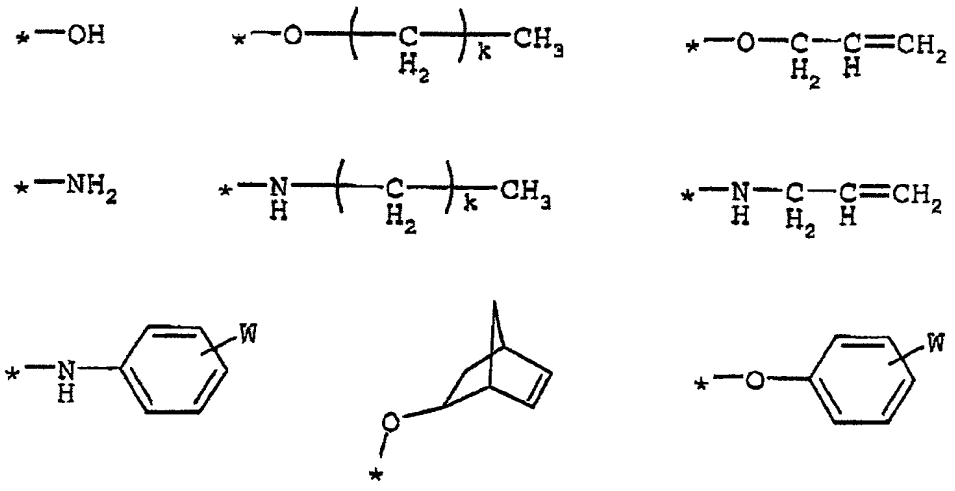
;

A, if at least one of a = 0 and f = 1, is a substituent selected from the group consisting of

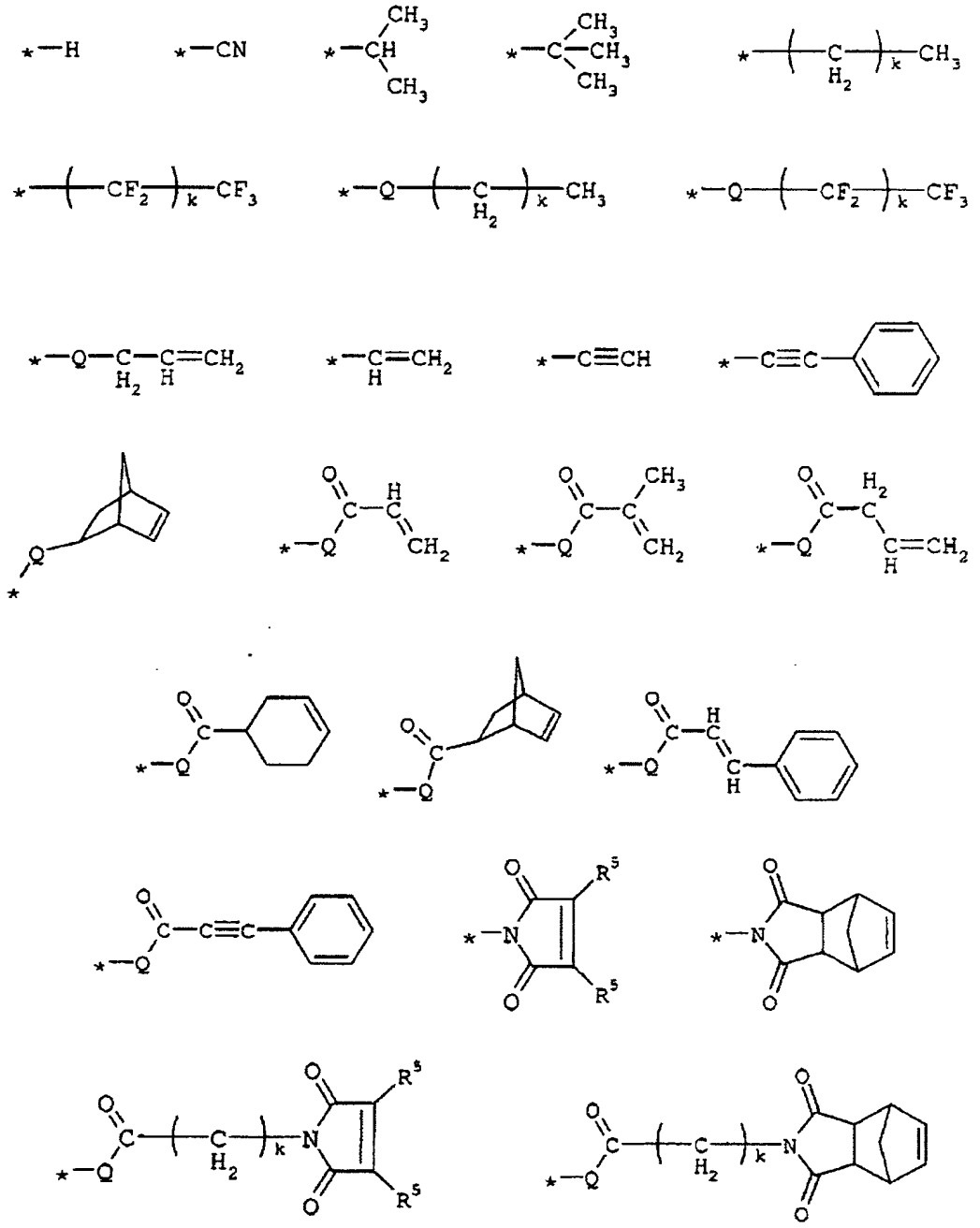


;

A, if at least one of a = 1 and f = 0, is a substituent selected from the group consisting of

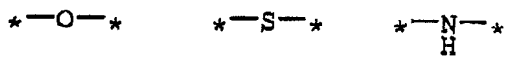


W is a substituent selected from the group consisting of

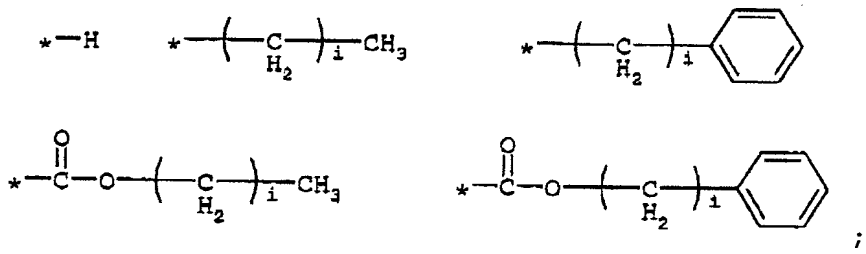


;

Q is a substituent selected from the group consisting of



$R^1$ is a substituent selected from the group consisting of

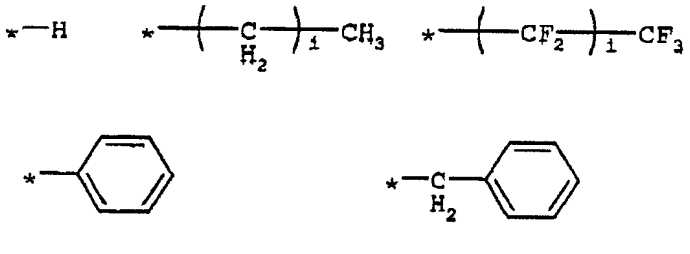


;

$R^2$ is a substituent selected from the group consisting of -H, an alkyl group having from 1 to 10 carbon atoms, an aryl group, and a heteroaryl group;

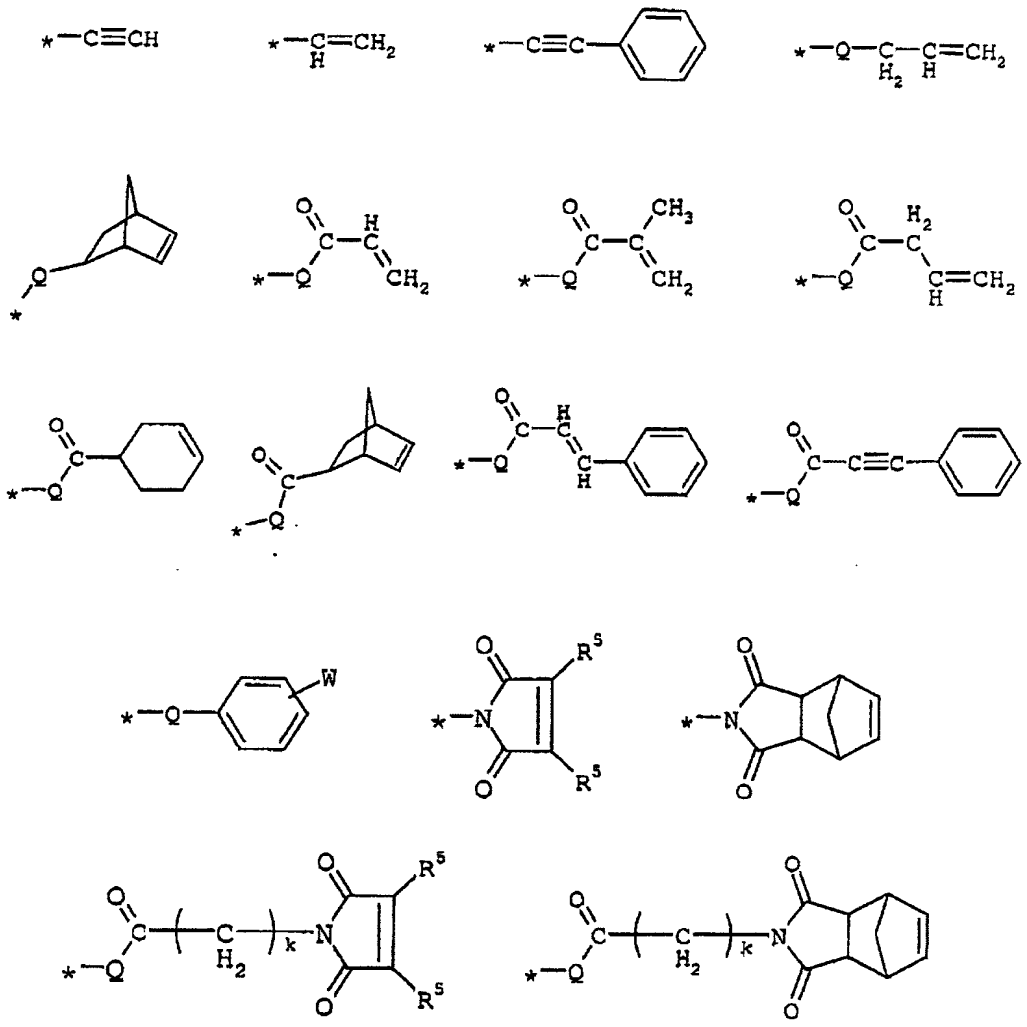
$R^3$ and $R^4$, in each case independently, are substituents selected from the group consisting of a substituted alkylene, an unsubstituted alkylene, arylene, and cycloalkylene group;

$R^5$ is a substituent selected from the group consisting of



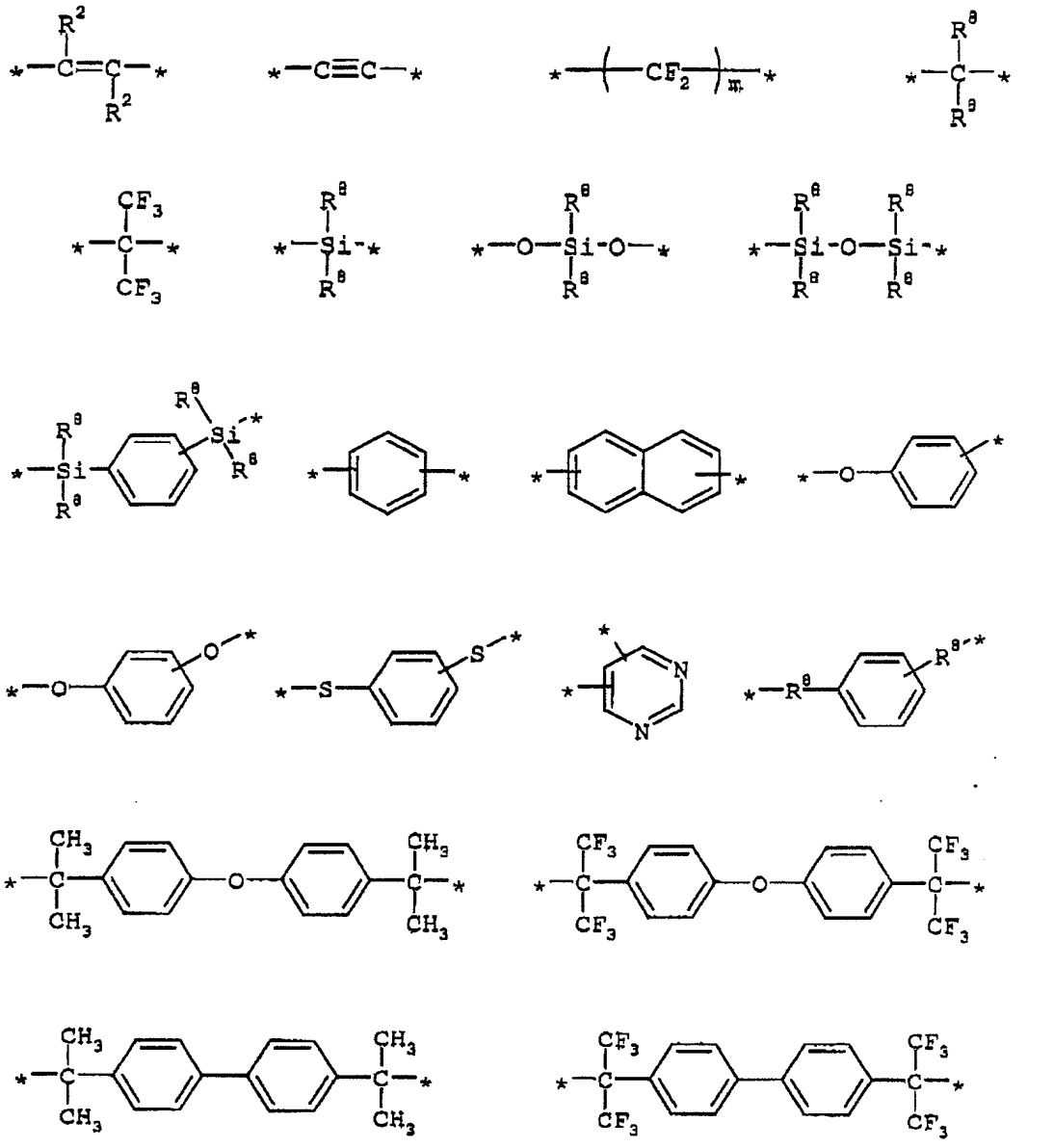
;

$R^6$ is a substituent selected from the group consisting of -H, -$CF_3$, -OH, -SH, -COOH, -$N(R^2)_2$, an alkyl group, aryl group, a heteroaryl group, and



;

$R^7$ is a substituent selected from the group consisting of -O-, -CO-, -$NR^4$-, -S-, -$SO_2$-, -$CH_2$-, -$S_2$-, and



;

$R^8$ is a substituent selected from the group consisting of an alkyl group having from 1 to 10 carbon atoms, an aryl group, and a heteroaryl group;

a is an integer from 0 to 1;

b is an integer from 1 to 200;

c is an integer from 0 to 200;

d is an integer from 0 to 50;

e is an integer from 0 to 50;

f is an integer from 0 to 1;

g is an integer from 0 to 100;

h is an integer from 0 to 100;

i is an integer from 0 to 10;

k is an integer from 0 to 10;

l is an integer from 1 to 10;

m is an integer from 1 to 10;

g and h are not simultaneously 0; and

l is an integer from 0 to 10 when $R^7$ is $-CH_2-$;

applying the solution to a substrate;

evaporating the solvent to form a film;

heating the film to cyclize the poly-o-hydroxyamide of the formula I to give a polybenzoxazole according to claim 7;

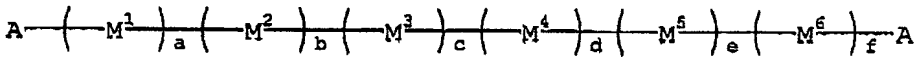
structuring the film to obtain a resist structure having trenches;

depositing a conductive material on the resist structure to fill the trenches the conductive material; and

removing excess conductive material.

13. A process for producing an electronic component including a polybenzoxazole, which comprises:

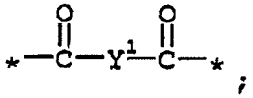
preparing, in a solvent, a solution of a poly-o-hydroxyamide having a formula I



Formula I

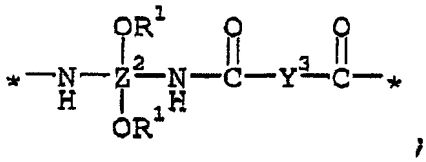
wherein

$M^1$ is



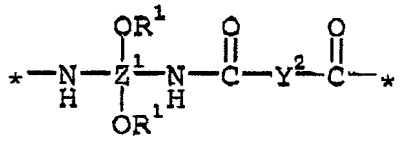
;

$M^2$ is

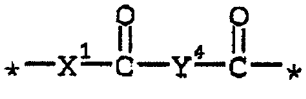


;

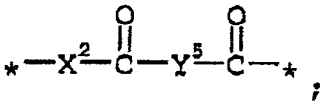
$M^3$, $M^4$, and $M^5$, in each case independently, are monomers selected from the group consisting of



,

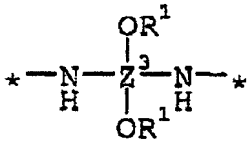


, and



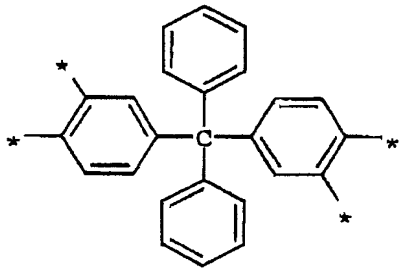
;

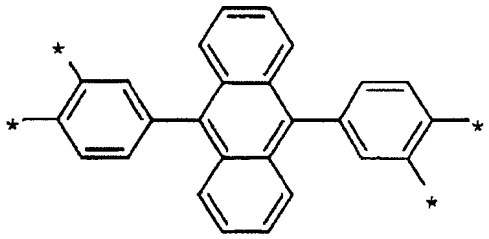
$M^6$ is

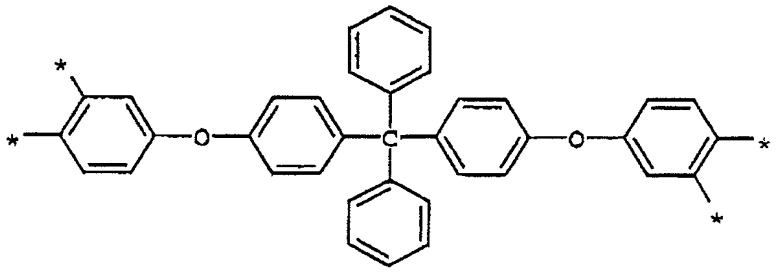


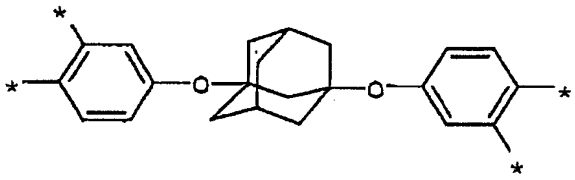
;

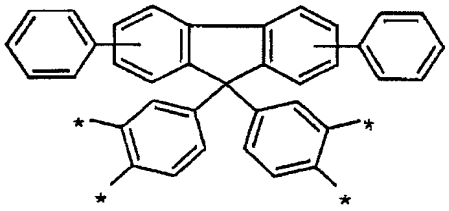
$Z^2$ is a substituent selected from the group consisting of

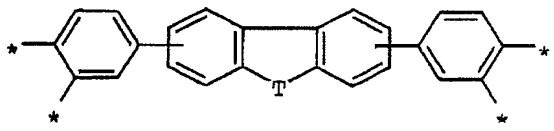


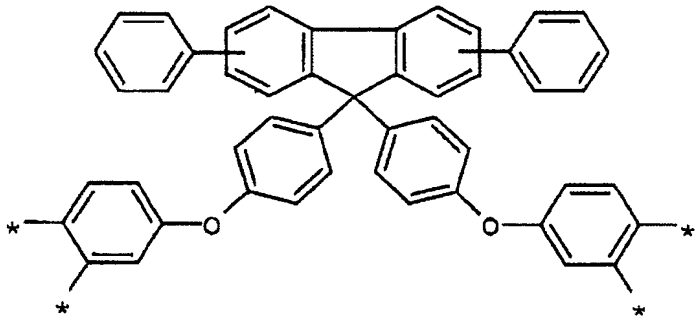


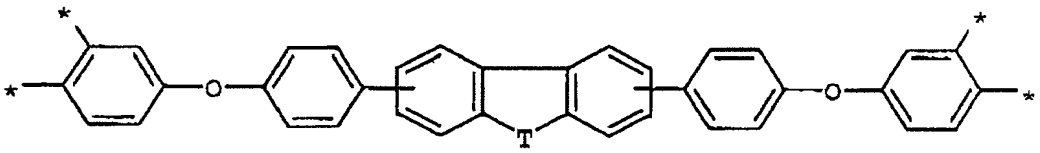




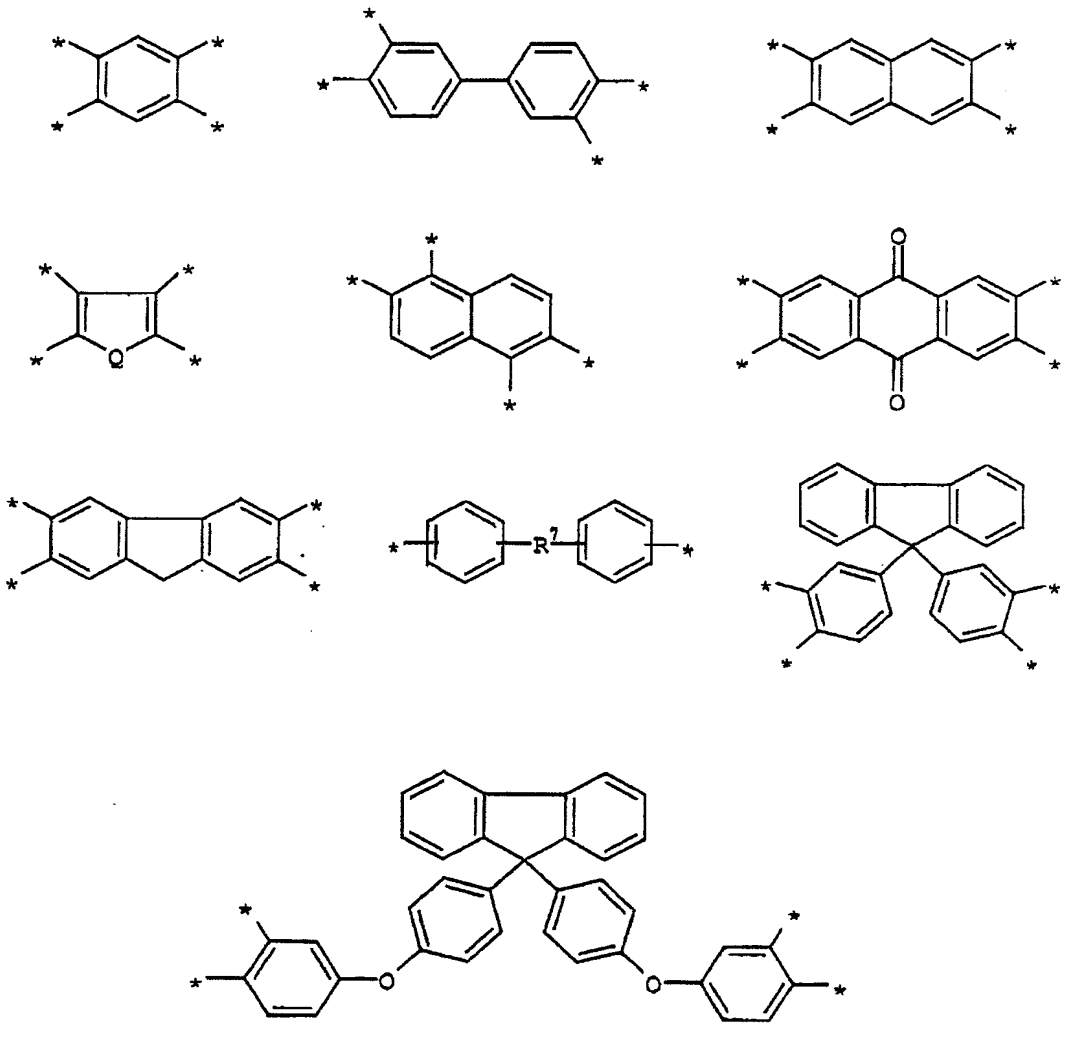






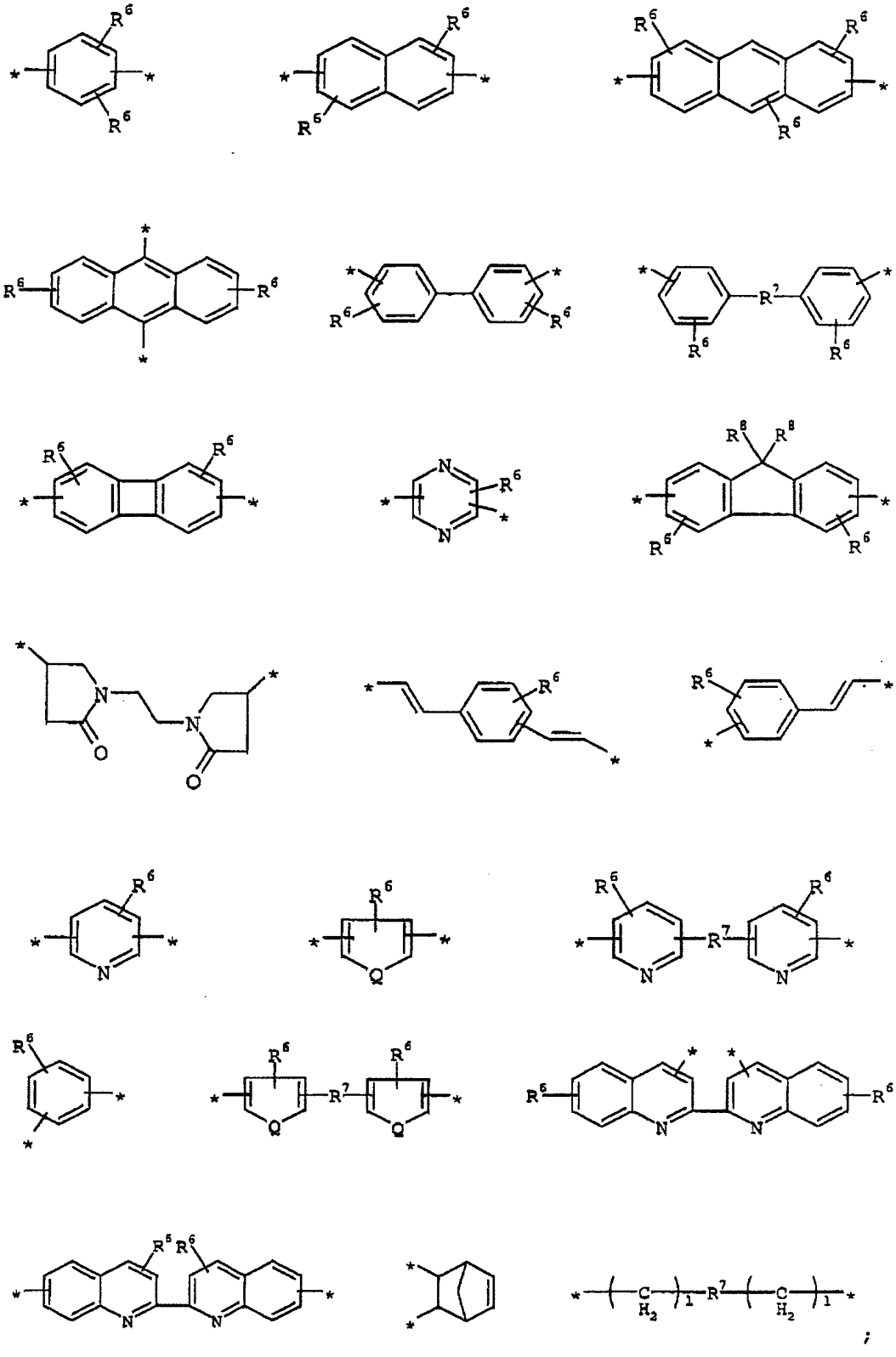


$Z^1$ and $Z^3$, in each case independently, are substituents selected from the group stated for $Z^2$, the group further consisting of



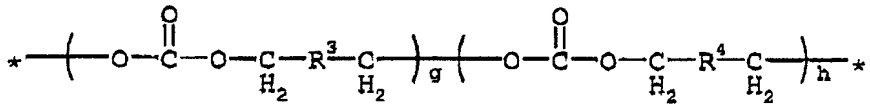
;

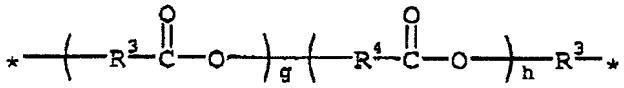
$Y^1$, $Y^2$, $Y^3$, $Y^4$, and $Y^5$ are substituents selected from the group consisting of

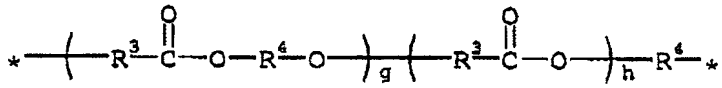


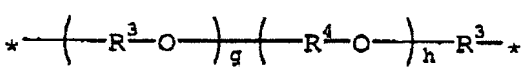
;

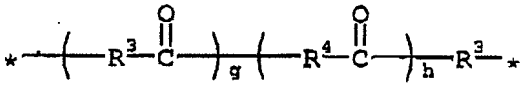
$X^1$ and $X^2$, in each case independently, are substituents selected from the group consisting of:

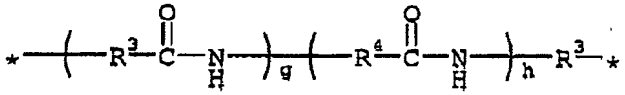






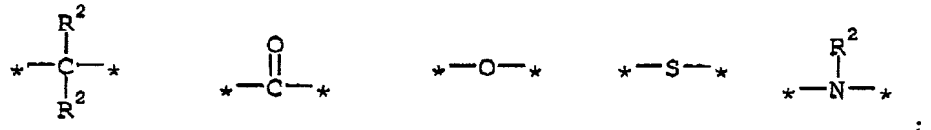






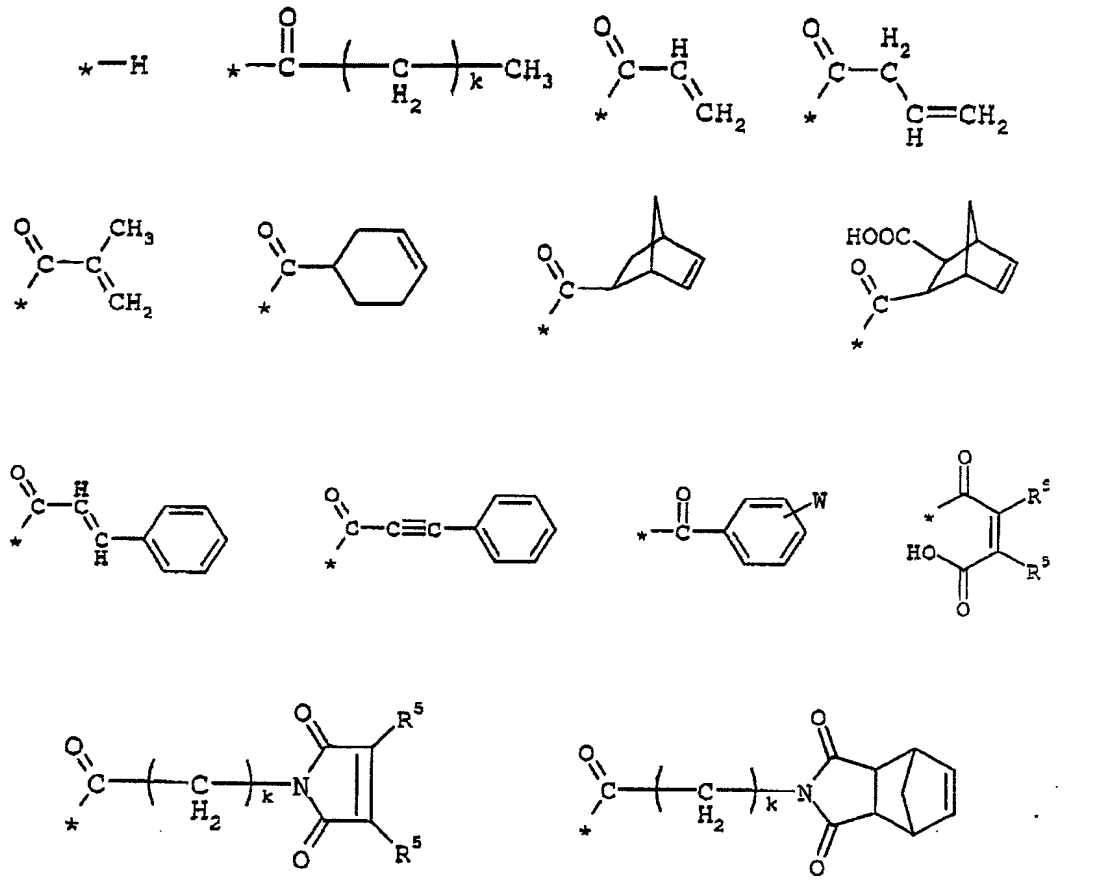
;

T is a substituent selected from the group consisting of



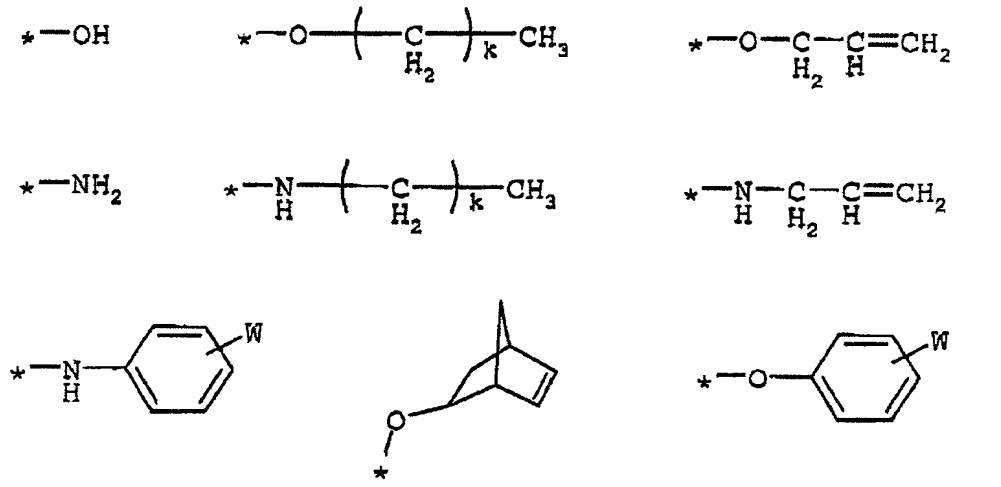
;

A, if at least one of a = 0 and f = 1, is a substituent selected from the group consisting of



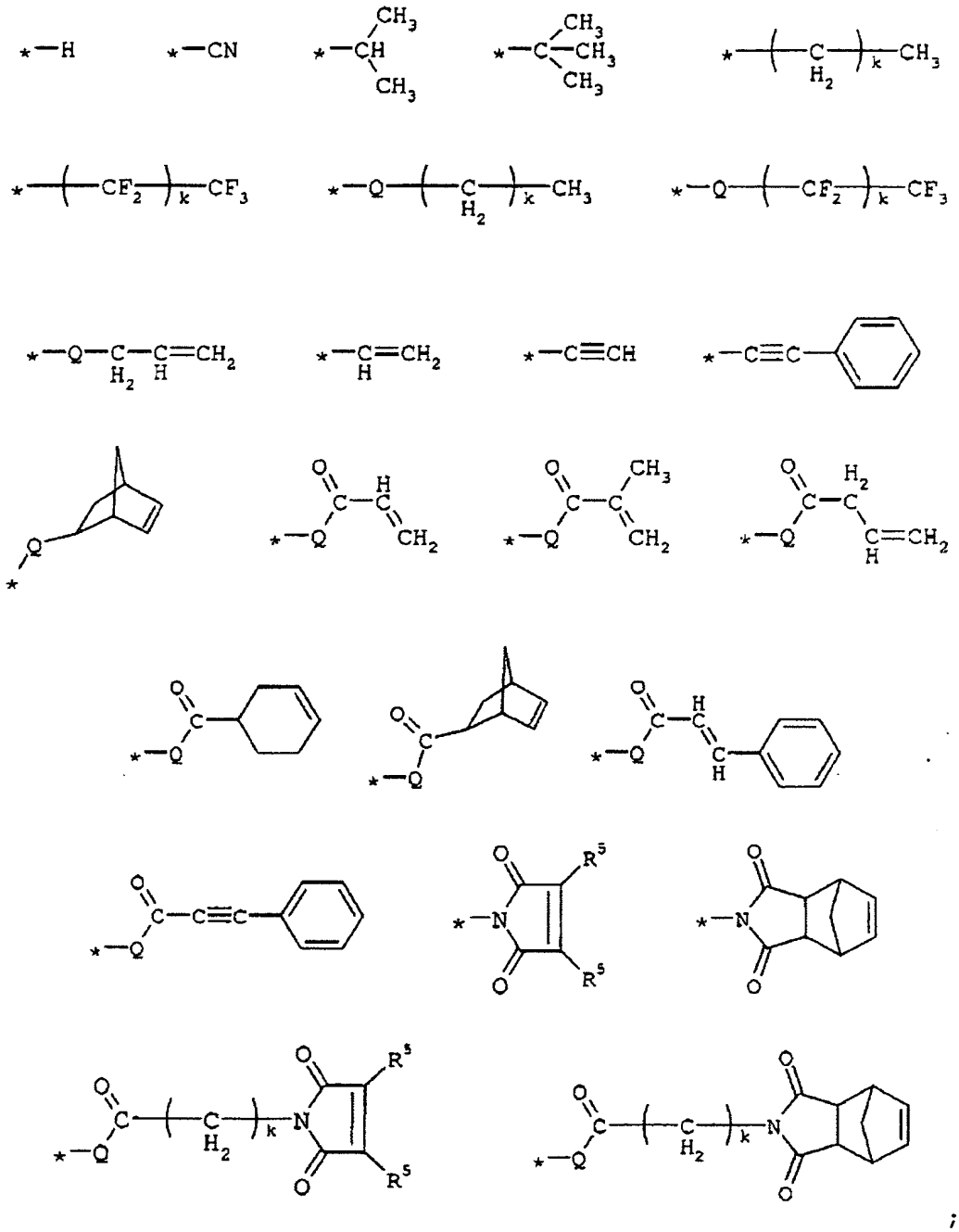
;

A, if at least one of a = 1 and f = 0, is a substituent selected from the group consisting of



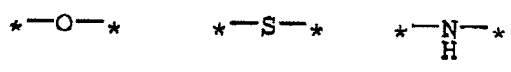
;

W is a substituent selected from the group consisting of



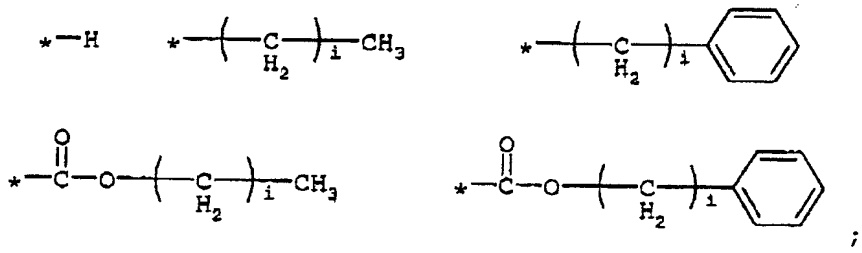
;

Q is a substituent selected from the group consisting of



;

$R^1$ is a substituent selected from the group consisting of

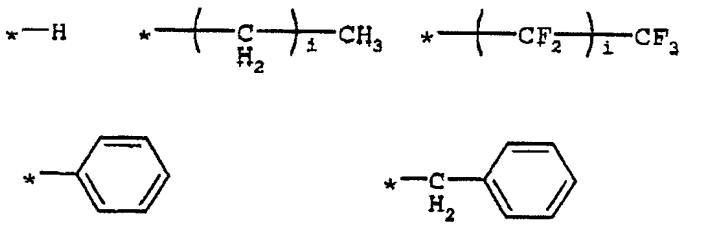


;

$R^2$ is a substituent selected from the group consisting of -H, an alkyl group having from 1 to 10 carbon atoms, an aryl group, and a heteroaryl group;

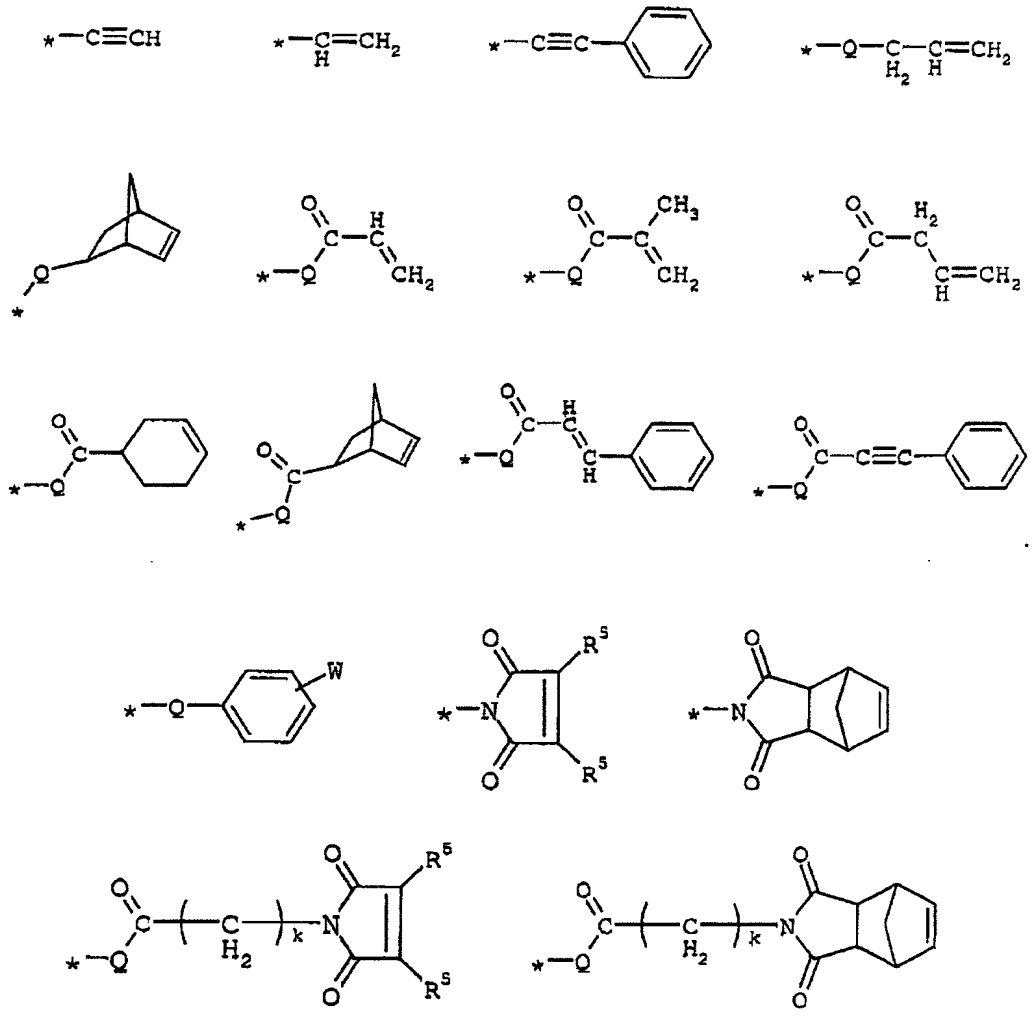
$R^3$ and $R^4$, in each case independently, are substituents selected from the group consisting of a substituted alkylene, an unsubstituted alkylene, arylene, and cycloalkylene group;

$R^5$ is a substituent selected from the group consisting of



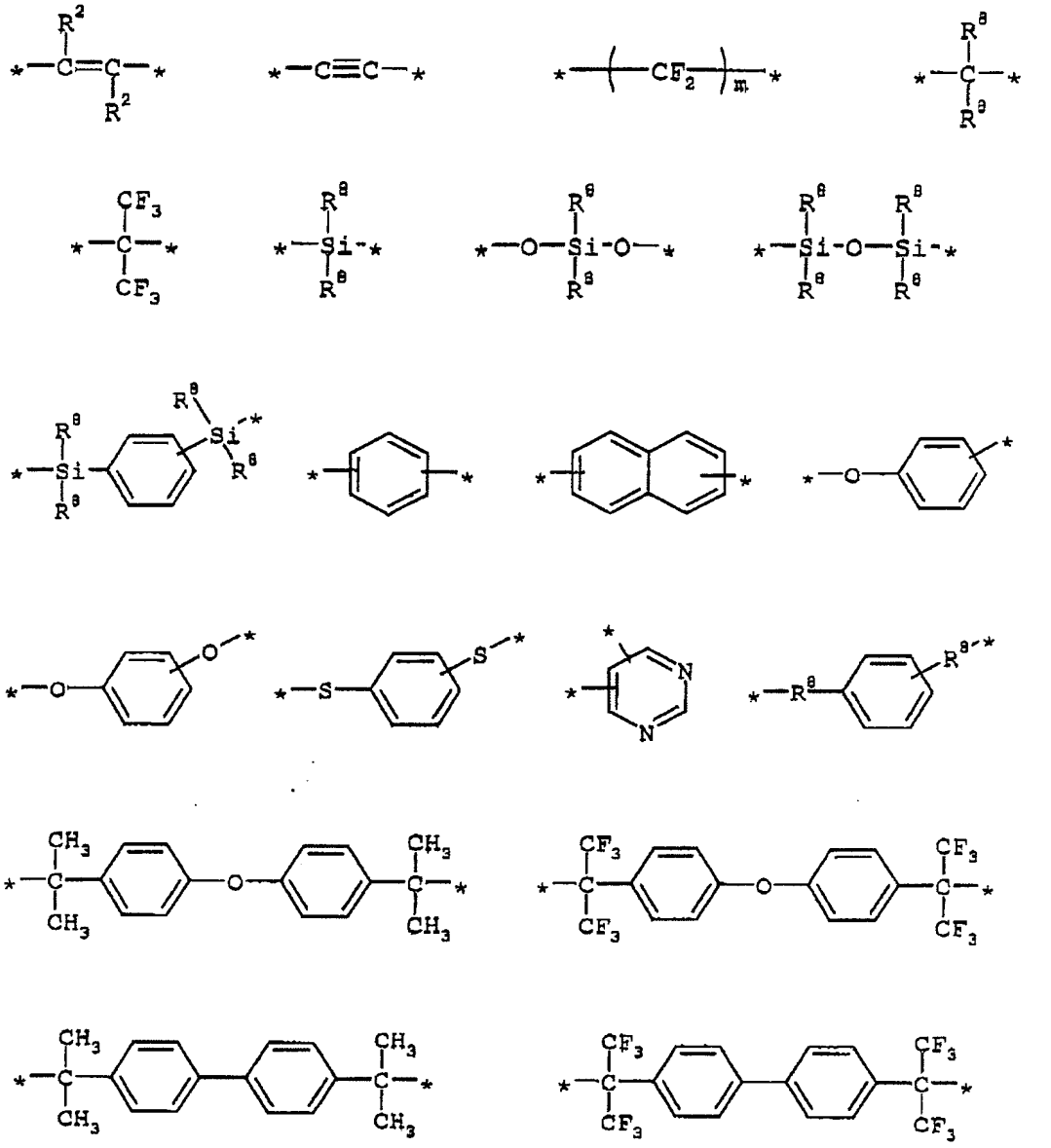
;

$R^6$ is a substituent selected from the group consisting of -H, $-CF_3$, -OH, -SH, -COOH, $-N(R^2)_2$, an alkyl group, aryl group, a heteroaryl group, and



;

$R^7$ is a substituent selected from the group consisting of -O-, -CO-, $-NR^4-$, -S-, $-SO_2-$, $-CH_2-$, $-S_2-$, and



;

$R^8$ is a substituent selected from the group consisting of an alkyl group having from 1 to 10 carbon atoms, an aryl group, and a heteroaryl group;

a is an integer from 0 to 1;

b is an integer from 1 to 200;

c is an integer from 0 to 200;

d is an integer from 0 to 50;

e is an integer from 0 to 50;

f is an integer from 0 to 1;

g is an integer from 0 to 100;

h is an integer from 0 to 100;

i is an integer from 0 to 10;

k is an integer from 0 to 10;

l is an integer from 1 to 10;

m is an integer from 1 to 10;

g and h are not simultaneously 0; and

l is an integer from 0 to 10 when $R^7$ is $-CH_2-$;

applying the solution to a substrate, the substrate having a surface with metallic structures and trenches between the metallic structures;

evaporating the solvent to fill the trenches with the poly-o-hydroxyamide having the formula I;

heating the substrate to cyclize the poly-o-hydroxyamide of the formula I to yield the polybenzoxazole according to claim 4.